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Communicating Housing Development Practices in the City of Cape Town Housing Directorate in Order to Build Healthy Communities

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Communicating Housing Development Practices in the City of Cape Town Housing Directorate in Order to Build Healthy Communities

An Interactive Qualifying Project submitted to the faculty of Worcester
Polytechnic Institute in partial fulfilment of the requirements for the Degree of
Bachelor of Science

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Abstract

Inadequate housing is a major problem in the City of Cape Town and the need increases every year. The goal of this project was to assist the Housing Directorate to build healthy communities by compiling and sharing lessons learned regarding low income housing practices and processes. Through case studies, interviews, and literature reviews we identified and investigated a set of five best practices to achieve our goal: community participation, green technology, mixed-use development, community facilities, and interdepartmental collaboration.

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Table of Contents

Acronyms	i
Executive Summary	ii
1. Introduction	1
2. Background	4
2.1 City of Cape Town Challenges Influenced by Housing	4
2.2 Best Practice	5
2.3 Housing Directorate	6
2.3.1 Organisational Structure	6
2.3.2 Communication Challenges	10
2.4 Sustainable Development	10
2.4.1 The Ideals of a Sustainable Neighbourhood	11
2.4.2 Sustainable Development Efforts in Cape Town	12
2.5 Case Studies	13
2.5.1 Belhar-Pentech	13
2.5.2 Witsand iEEco Village	13
2.5.3 Du Noon	14
2.5.4 Joe Slovo Park	15
2.5.5 Indlovu Centre	16
2.5.6 Stonehouse Project in Mbekweni	16
2.5.7 Eco-beam	17
2.5.8 Edward St. Project in Grassy Park	17
2.5.9 Sakhasonke Village	18
3. Methodology	19
3.1 Identifying Best Practices	19
3.2 Case Studies and Interviews	20
3.3 Knowledge Management System	22
3.4 Communications	23
3.4.1 Audiences	23
3.4.2 Communication Content	24
3.5 Ethical Considerations	24
4. Results and Analysis	25
4.1 KMS: Best Practices in Building Healthy Communities	25
4.2 Community Participation	39
4.2.1 Housing Project Steering Committee	40
4.2.2 The People's Housing Process	43
4.2.3 Community Education and Training Programmes	45
4.2.4 Prototyping	47
4.2.5 Other Methods of Community Participation	49
4.2.6 Social Rewards	50
4.2.7 End-User Financing	50
4.2.8 Surveying Community Needs	50
4.3 Green Technology	50
4.3.1 Dry Sanitation	51

4.3.2	Domestic Rainwater Harvesting	52
4.3.3	Building Materials	53
4.3.4	Passive Solar Energy.....	57
4.3.5	Other Sustainable Tools.....	59
4.4	Mixed Use Development.....	59
4.5	Community Facilities	61
4.5.1	The Role of Community Facilities.....	62
4.5.2	Current Efforts, Challenges, and Suggestions	64
4.6	Collaboration.....	67
4.6.1	4.5.1 Interregional Collaboration.....	68
4.6.2	4.5.2 Interdepartmental Collaboration	70
4.6.3	4.5.3 Other forms of Collaboration.....	73
5.	Conclusions.....	74
	Works Cited	75
	Appendix.....	79
	Annotated Bibliography.....	79
	Endnotes.....	93

Table of Figures

Figure 1.1: Informal Settlement in Monwabisi Park, Khayelitsha	1
Figure 2.1: Hierarchy of Housing in the City of Cape Town	7
Figure 2.2: Structure of the Housing Directorate.....	8
Figure 2.3: New Housing Regions of the City of Cape Town.....	9
Figure 2.4: Belhar-Pentech Housing Project Site	13
Figure 2.5: Witsand iEEco Housing Project Site	14
Figure 2.6: Du Noon Project Site.....	15
Figure 2.7: Joe Slovo Park Project Site	15
Figure 2.8: Crèche at Indlovu Centre.....	16
Figure 2.9: First Stonehousebuilt at Mbekweni.....	17
Figure 2.10: Eco-beam Technology Being Used to Build a House.....	17
Figure 2.11: Sakhasonke Village, Port Elizabeth (http://www.sabcnews.com/fokus/20070408e.html)	18
Figure 4.1: Belhar-Pentech Project Steering Committee Meeting.....	41
Figure 4.2: Membership of Housing Project Steering Committee	42
Figure 4.3: Illustration from Witsand Poster	46
Figure 4.4: Progression of Stonehouse Project due to Community Suggestions.....	48
Figure 4.5: Local Stones Used for Building Materials	55
Figure 4.6: Indlovu Sandbag Community Centre Foundation.....	56
Figure 4.7: Witsand iEEco Houses Shaded by Roof Overhang in Summer	58
Figure 4.8: Building Incorporating both Business and Home in One Building.....	60
Figure 4.9: Community Garden Entered into the Monwabisi Park Contest	63
Figure 4.10: Regions of the New Housing Department.....	69
Figure 4.11: Relationship between Informal Settlement Upgrading and New Housing (IDP)	71
Figure 4.12: Housing Directorate Departments	72

Table of Tables

Table 3.1: Information Regarding Interviews.....	21
Table 3.2: Information Regarding Attended Meetings	21
Table 4.1: Comparison of Member Selection Methods	43
Table 4.2: Community Facilities Present.....	64

Acronyms

CBD	Central Business District
CBO	Community Based Organisation
CDW	Community Development Worker
DAG	Development Action Group
HD	Housing Directorate
KMS	Knowledge Management System
NGO	Non-Governmental Organisation
SANCO	South African National Civic Organisation

Executive Summary

In 1994, the new South African government promised the impoverished masses living in informal settlements, sometimes with no infrastructure or employment opportunities, that they would be provided with adequate housing to atone for the injustices of the apartheid era. South African cities are at the forefront of delivering on this promise. While the City of Cape Town Housing Directorate (HD) is working towards accomplishing this, it faces numerous challenges that impede housing delivery. Close to 400,000 households are on the waiting list to receive new housing; however, only 7,530 housing opportunities were created in 2006. With such a high demand for delivery, government officials place an emphasis on the number, rather than the quality, of the houses and communities created.

Closely linked to the housing issue are social, economic, and health issues, which plague low-income communities. Crime, domestic abuse, and drug use are prevalent in these areas. Employment opportunities are limited by both housing location and transportation costs. Health conditions are poor, with a devastatingly high incidence rate of TB and HIV/AIDS. The city is aware of these problems and recognises the link between overall community wellbeing and housing development. Though still in the early stages of implementation, the City of Cape Town has adopted an integrated, sustainable approach to housing development that supports building healthy communities. This represents a major challenge, however, for time, money, and resources are limited. Also, there is no precedent in Cape Town for an integrated approach; therefore new methods must be developed.

The HD has recognised a need to establish best practices for creating sustainable, functional communities. In order to assist the HD fulfil this need, we focused our project on identifying and examining best practices in housing that contribute to building healthy communities. By spending two months with the Northern Region New Housing Department, we identified **five categories of best practices**: community participation, mixed-use development, community facilities, sustainable efforts, and interdepartmental collaboration. Through interviews, case studies and literature reviews, we discovered different methods of implementing these practices. This report presents the lessons we learned through an introduction to the major

and minor housing challenges facing Cape Town, our methods for gathering and analyzing information, and an in depth look at our results and deliverables. Major findings are summarized below.

We discovered that **community participation** is integral and can be accomplished in a variety of ways in the housing development process. In a new housing project, a Project Steering Committee that includes elected community leaders acting as representatives for beneficiaries can be very effective, as we learned in Belhar. The committee facilitates communication of project decisions and progress as well as setting housing allocation requirements. Other forms of participation include the Housing Consumer Education Programme, a pilot programme that teaches beneficiaries basic, practical homeowner skills, and the People's Housing Process, which allows individuals significant control over the planning and construction of their homes. We found that engaging the community increase community pride, buy-in for beneficial, innovative technologies, and homeowner satisfaction. Community participation is difficult for the HD to implement, however, because it requires extra time and effort and project managers lack the necessary capacity and support. Existing programmes are often underutilised and do not allow for a balance between bottom-up and top-down approaches to development. We recommended that the HD examine the advantages and drawbacks of these approaches, which we documented, and then apply those aspects most appropriate for each new community.

Mixed-use development, or including social, economic, and residential opportunities in one area, is a strategic way for housing to support healthy communities. Incorporating trading or business space in a community encourages entrepreneurship and supports employment opportunities. Utilising one area for many purposes minimizes the need for transportation because living, working, and social spaces are in close proximity. Mixed-use development promotes healthy communities by supporting economic success, economic equity, and environmental health, such as in Joe Slovo Park, Milnerton, which is a subsidized housing development containing multiple community facilities and is located next to an industrial area. In most cases, though, Cape Town is impeded by the unavailability of land and a lack of collaboration between economic, community, and housing development departments. We feel that these problems could be rectified by changing policy to allow for mixed-use land allocation, as well as special funding encouraging multi-story, multi-functional building development, such as a first floor business with a second floor home. We also strongly encouraged

interdepartmental collaboration of all departments relevant to low-income communities. Communities would then be significantly more self-sufficient and successful.

The use of **green technologies**, which are sustainable and have minimal environmental impact, should be promoted. Some innovative green technologies that could be readily applied in Cape Town include the following;

- dry sanitation,
 - does not require water or sewer infrastructure
 - Indlovu earthworm toilet
- rainwater harvesting
 - alternative water supply
 - Indlovu laundry station
- passive solar energy
 - domestic climate control
 - Witsand iEEco Village
- alternative construction materials
 - recycled material wastes and local resources
 - Stonehouse Project

The HD has included some green technologies in its projects, but their wider application has been hindered by limited knowledge of existing technologies; difficulties with community buy-in; and the perception that innovation is time consuming and costly..

Through our research, we discovered that each green technology supports the concept of cyclic use and reuse, minimizing waste in any form and maximizing available resources. We recommended educating project managers and community members on existing technologies and their benefits through workshops, seminars, classes and a database containing pertinent information, in order to increase use of innovations. We also gaining support from political and community leaders aids in adjusting community perception and facilitating buy-in.

Social and health issues, like crime and violence, as well as a high incidence rate of TB and HIV/AIDS, can be counteracted by the presence of **community facilities**; therefore their creation and use are essential best practices. Community halls serve many purposes by providing space for town gatherings, such as political meetings, religious worship, and social activities. Other important facilities include health centres, youth centres, crèches, sports facilities, schools, libraries, and walk-in centres.

The town planning layout stage of development includes provisions for community facilities to be created by the Community Development Department; however, there is a lack of synergy between housing and community development departments. Therefore, space allocated for community facilities often remains undeveloped and this often results in land invasion. We recommended synchronizing facility and housing construction, rather than building one after the other, and gaining support from leaders in the community in order to ensure proper use and maintenance of the facilities. While we realised that proper implementation may slow progress of housing construction, the benefits of community facilities far outweigh the costs, reducing the rampant social and health problems we previously mentioned and helping to foster a sense of neighbourliness. We also discovered that those facilities that are present do not always meet community needs. We feel it is essential to engage beneficiaries, surveying them to assess their needs and then incorporating those needs into deciding the facilities that the community requires,

One of the most critical, yet underutilised, best practices we discovered was **collaboration** amongst regions and departments, as well as with provincial government, new employees, and NGOs. We learned that the HD does not actively promote collaboration, nor does it provide a medium to share lessons learned between these entities. Interregional teamwork and communication is minimal because there is minimal time and the HD does not encourage them. We recommended establishing periodic round table meetings between regional department heads for innovative discussions and brainstorming.

We found that some departments currently work well together out of necessity; however, there are many other connections that could be made to facilitate building healthy communities. For example, if New Housing and Community Development worked together, construction of needed community facilities and establishment of essential social programmes would be synchronized with housing development. To address the issue of interdepartmental collaboration, we suggest using focus groups with members from various, relevant departments in housing projects, as well as providing proper communication tools, training, guidance, and incentives. We also suggest using seminars to increase lesson sharing and multi-perspective discussion between government employees and NGOs involved with low-income communities.

Through our interaction with the HD we discovered that they aspire to wonderful goals and generally have the intentions of providing satisfactory housing and improving the quality of life for beneficiaries. Unfortunately, implementation of these goals is complex, requiring time

and planning, and is therefore not being carried out as effectively or efficiently as it might be. The best practices proposed in this report can further the City of Cape Town's progress towards their goals. During our investigation of the practices, we took the strengths and weaknesses of the HD, along with regulations, policies and processes that they are required to follow into consideration, to maximize the value of this report. These best practices are explained and benefits, drawbacks, and solutions for effective implementation are shared.

1. Introduction

Cape Town, South Africa, is one of the most beautiful cities on earth. On the edges of the city, however, the picture is different (Figure 1.1). An unfortunate remnant of the apartheid era, the outskirts of Cape Town are characterized by tin shacks, dirt roads, and minimal sanitation. The Housing Directorate (HD), the governmental entity responsible for housing in Cape Town, has been taking steps to upgrade, and eventually eradicate, these informal settlements; however progress is slow, in part due to difficulties sharing ideas, experiences, and learning amongst housing officials, other government departments, and non-governmental organisations (NGOs)¹. For progress to continue, it is essential that best practices be realized and shared within the HD.



Figure 1.1: Informal Settlement in Monwabisi Park, Khayelitsha

The City of Cape Town HD has been the main force behind upgrading the informal settlements, providing sanitation, better housing, and basic services. While the HD has been doing a lot of work for the improvement of the city, it faces numerous challenges and housing

delivery is slow. Apartheid has left a legacy of 206 informal settlements² and close to 400,000 households in Cape Town on the waiting list to receive new housing³; however, only around 7,530 new housing opportunities were created in 2006⁴. At the current rate, if no more people were added to the waiting list (although the housing backlog is, in fact, growing) it would take approximately 44 years for everyone on the present list to receive housing. This statistic contradicts the National Department of Housing's goal of creating appropriate housing for all inhabitants of informal settlements by 2014². City officials realize that the rate of housing delivery needs to be increased substantially; however, they have a number of obstacles to overcome. These include economic instability of beneficiaries (households that qualify for subsidized housing) and lack of affordable, well located land. In addition, the low-income communities previously established are rife with social problems and dissatisfaction is high amongst residents.

Efforts have been made to improve the quality of communities throughout the regions: the city has supported initiatives to place low-income housing in high employment areas, like the **Joe Slovo Park** settlement in Milnerton. It is also working around the lack of land availability by supporting settlement densification⁵, such as the medium density housing in the N2 Gateway project⁶. The implementation of sustainable development concepts in all stages of housing development to improve quality and cost-effectiveness has also been encouraged. Multiple eco-friendly projects, in various areas including **Witsand** and Mbekweni^{7,8}, have been established in Cape Town and the surrounding areas. The city recognises that community involvement is critical to address the housing needs of beneficiaries, and currently accomplishes this through programmes like the People's Housing Process and Project Steering Committees.

Unfortunately, while these efforts are steps towards supporting healthy communities and overcoming housing obstacles, problems still exist. The policies that are in place to further these efforts are challenging to implement. The housing backlog is increasing and people continue to be dissatisfied with their homes. Crime, abuse, and drugs are problems in communities that lack adequate social programmes and facilities. Sustainable efforts are often impeded by time restrictions and lack of community buy-in. These problems are additionally aggravated by limited government interactions between regions and departments. This lack of communication results in these entities functioning independently and following different practices, policies and processes without the benefit of learning best and worst practices from others. Best and worst

practices from outside sources, such as NGOs and other developing countries, could also be referenced by the HD. Lessons learned regarding healthy communities and their creation are underutilised and therefore housing development continues without solving the overall housing problems faced by beneficiaries.

The goal of this project was to assist the City of Cape Town HD to build healthy communities by compiling and sharing lessons learned regarding low-income housing practices and processes. We accomplished our mission by first identifying the best housing development practices and related policies in the Northern Region. Next we used literature, case studies and interviews to investigate different methods of implementing the best practices. Using the information obtained from these studies, we developed the framework for a knowledge management system. We used this system as well as a presentation to communicate the lessons we learned to the HD.

2. Background

Fulfilling housing needs is a difficult task, especially in developing countries. Housing development can be accomplished in a number of ways with varying levels of success, and identifying and sharing best practices is an effective means of improvement. In order to do this for the City of Cape Town, we required an understanding of the problems in housing, as well as the HD organisation and function, which are included in this chapter. Also included is an explanation of the theory of best practice and a description of sustainable development and its role in South Africa.

2.1 City of Cape Town Challenges Influenced by Housing

Numerous problems plague families living in informal settlements and government subsidized housing. These problems range from a lack of employment opportunities and economic stability, to location and transportation availability, to alcoholism, abuse, and criminal activities. Each of these problems is influenced by how subsidized housing has affected communities, either directly or indirectly.

Job availability is a distinct issue for housing beneficiaries. This is validated by a 2005 survey, in which job creation was considered to be the number one priority of the city. There are multiple reasons why it is difficult for beneficiaries to attain jobs. Poorly located low-income communities and transportation costs contribute to the problem⁹. There is also little incentive to work, as those that make between 3500 and 7000 rand a month are not only ineligible for a subsidy, but also cannot receive a loan from the bank¹⁰. They are therefore forced to live in informal settlements or backyard shacks as renters with little opportunity to own a formal home.

Land close to the Central Business District (CBD) is generally unaffordable, minimal in quantity and size, or low in quality. City planners are forced to look far from the CBD to find adequate land plots, which means that low-income housing is pushed further from where residents may have employment opportunities¹¹. This remoteness also means that infrastructure must be obtained from distant sources, which is expensive and time consuming to install. Urban sprawl also detracts from the environment, which negatively affects tourism and thus, the economy⁹.

There are numerous social problems that both informal settlements and low-income housing residents face. One of these problems is a lack of social activities or “things to do”¹². Alcoholism, violence, and crime often result from lack of social programmes and productive activities, such as education or jobs. Abuse and domestic violence is also prevalent in these areas, to the extent that there were at least 1139 reported cases of child abuse per year, according to a 2005 study, in the Cape Town area⁹. Drug-related crime is on the rise, going from 228 to 512 reported cases per 100,000 people from 2002 to 2005¹³.

A key reason, in addition to having limited to no social activities, that social problems and crime exist in subsidized housing projects is that there is a lack of community pride¹. Having been given the houses for free, many beneficiaries do not value them. When residents are not included in the planning and building of their community or do not contribute towards their dwelling in some way (e.g. monetarily), there is little cultivation of ownership pride. This leads to vandalism, lack of property maintenance, and willingness to sell these houses for prices far under market value¹¹. Oftentimes, beneficiaries sell their houses for next to nothing; in one rumoured case, a 6-pack of beer, and move back into the informal settlement shacks¹.

The problems plaguing Cape Town are difficult and varied. The lack of employment availability and basic skills keep housing beneficiaries from gaining economic stability. Where they currently reside hinders their ability to get a job as they are generally living far from the CBD and transportation is expensive. A lack of social programmes and activities contributes to alcoholism, abuse, and criminal activities. With the right set of good practices in place, however, the City of Cape Town can move towards overcoming these challenges.

2.2 Best Practice

Best practice is a broad theory of improvement. It is defined as finding what works well and using it¹⁴. This theory encompasses anything that can be accomplished multiple ways—from teaching a class, to manufacturing a product, to running a corporation—with some ways being more successful than others. It is a concept that is not only broad in the topics it covers; it can also be applied all over the world. The Building America group has a best practices guide for energy-efficient housing built in the Mid-Atlantic region of the United States¹⁵. The United Nations also values this concept, having an online database of best practices for sustainable

urban development with examples from all over the world, including China, Chile, and Uganda¹⁶.

Best practices are already encouraged by respected NGOs in South Africa. The Development Action Group (DAG) has a research article on its website specifically on international best practices with respect to their relevance to South Africa. This article discusses practices that increased the housing delivery rate and improved housing quality in Chile, and how housing delivery was made more cost-effective in India. In the end, it listed six key ways South Africa could learn from the best practices in other developing nations¹⁷. If used correctly, best practices will reduce costs, increase efficiency, improve workforce skills, reduce waste, improve quality, and as a bonus, allow for quick response to urban development innovation¹⁴.

2.3 Housing Directorate

The National Housing Department of South Africa was transformed after apartheid, under the guidance of the African National Congress. It conducts research and creates policies with the goal of improving housing delivery in quantity, quality and process. In order to put these policies into practice, the City of Cape Town has its own department responsible for fairly providing housing to eligible residents of Cape Town¹⁸. In accordance with all successful entities, the City of Cape Town HD wishes to improve its product quality and turnout rate. Underlying problems that create challenges in housing delivery may be a result of many factors, including inefficient communication, policy structure and process, effective sharing of housing best practices, especially between regions, and interdepartmental collaboration.

2.3.1 Organisational Structure

There are three concentric spheres comprising the administrative structure of South Africa: national, provincial, and municipal. The HD is a branch of the municipal government and forms part of the organisational structure of the City of Cape Town government, which is within the Province of the Western Cape¹⁸. Interactions between the HD and Provincial government are frequent and vital, for example, proposals must be submitted to the Provincial administration for approval in order to be funded¹⁹.

The municipality is divided into political and administrative hierarchies (Figure 2.1). The Housing Directorate is one of eleven branches of administrative government which work to

implement the strategies and goals that the corresponding political branches above them dictate. Sub-council and ward divisions are important to the HD, since they must interact with the elected officials in order to conduct a project. Oftentimes, the project may span more than one ward or even sub-council.

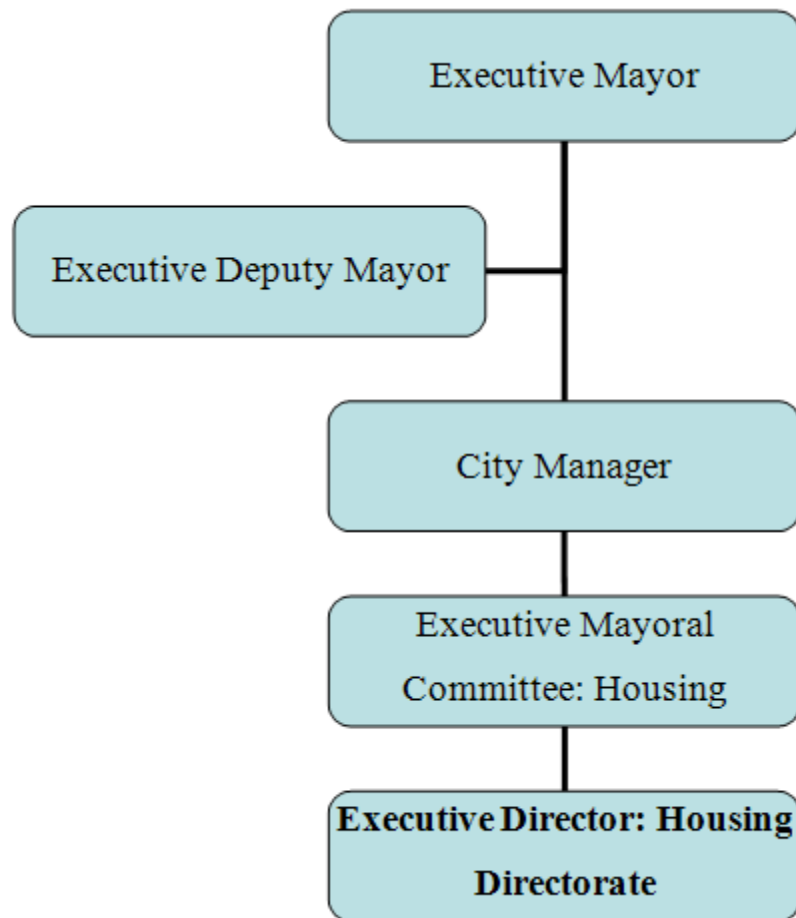


Figure 2.1: Hierarchy of Housing in the City of Cape Town

Within the administrative branches there is also a hierarchy of departments within each branch¹⁸. The HD, being one of those administrative branches is divided into six departments by function: New Housing, Existing Housing and Maintenance, Informal Settlement Management and Upgrading, Housing Land and Forward Planning, Marketing Communications, and Housing Support. Within each department regional divisions exist (Figure 2.2).

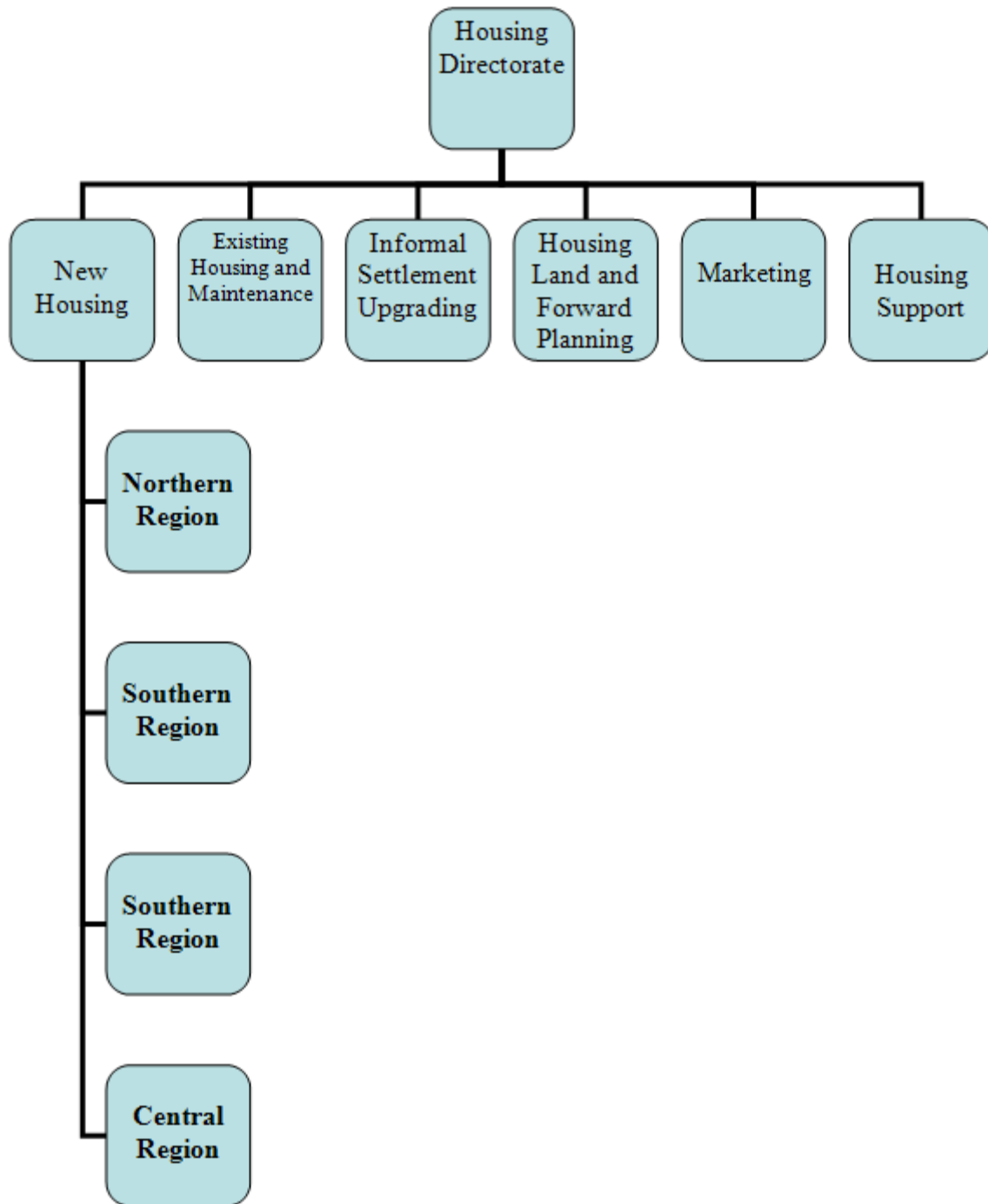


Figure 2.2: Structure of the Housing Directorate

Originally, the area that is now under the City of Cape Town HD jurisdiction was seven independent local municipalities: Blaauwberg, Cape Town, Cape Metropolitan Council, Helderberg, Oostenberg, South Peninsula, and Tygerberg²⁰. Each of these different areas had its

own organisation, procedures and policies. In an effort to streamline the Housing Directorate and increase productivity, these seven municipalities were recently merged into the unified City of Cape Town HD. It now operates as four regions which function primarily independently of one another¹; the Southern Region, Eastern Region, Central Region and the Northern Region (Figure 2.3). We worked mainly in the Northern Region which encompasses the Blaauwberg and Tygerberg areas.

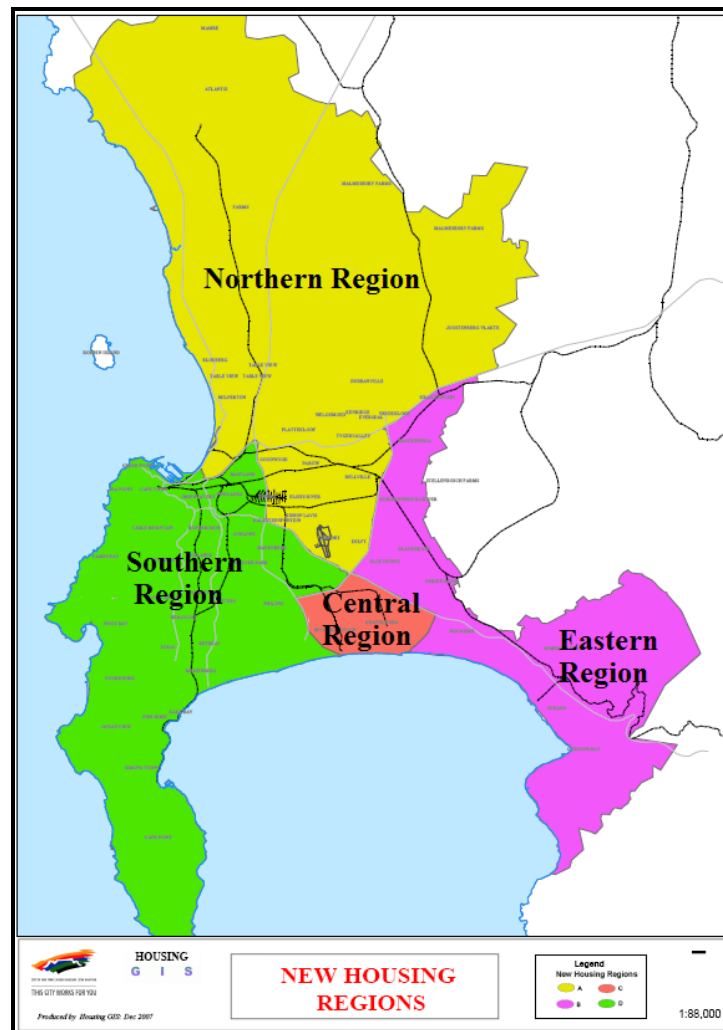


Figure 2.3: New Housing Regions of the City of Cape Town

2.3.2 Communication Challenges

The four regions identify themselves mostly as unique, rather than as parts of one unit. This division is only natural, and in certain ways necessary for successful housing delivery. The four regions provide housing and govern the development process for areas that have different characteristics and are large enough to require distinct responses from local government. For example, the metropolitan Cape Town area in the Central region, which is highly urbanized, faces a different situation than the largely residential and rural areas of the Northern Region. Each requires special, individualized attention that one, all-encompassing region would not provide. However, there are disadvantages to this division. It often impedes communication, collaboration, and consistency amongst regions. This can lead to inequity due to inconsistencies in housing delivery, contradictory efforts due to the lack of collaboration, and duplication of mistakes due to minimal communication¹. Increased communication would not only aid in the remedy of these problems, but would also lead to the improvement of practices through the sharing of ideas amongst regions.

Communication and collaboration between departments within and outside the HD are necessary interactions during a new housing project. Some policies and procedures influence these interactions; however, collaboration is inefficient due to lack of incentive, time and guidance²¹. Identifying solutions to dilemmas, such as the misalignment of budgets between departments working on the same project, caused by a lack of synergy and effective communication, will improve the housing development process¹. Since many of the departments perform related tasks, the current lack of integration may be detrimental to the ultimate goal of providing sustainable housing for those in need²². Prioritising the requirement for strong relationships and good communications between departments will increase efficiency and productivity.

2.4 Sustainable Development

Sustainable development is the philosophy of creating a balance between economy, environment, and equity. It is a philosophy that planners attempt to incorporate in urban development. It is theorized that sustainability would be helpful in the development of low-income housing in South Africa and specifically the City of Cape Town, as it has proven to be

helpful in other areas²³. The concept of sustainable development is often considered theoretically, but tends to be hard to put into practice. It is difficult to achieve a reasonable, positive balance between economic growth, environmental protection, and social equity as there are conflicts inherent between the three; therefore a focus is usually placed on either one or two of these elements²⁴.

Since the three elements considered in sustainable development are very different from one another, conflicts and disagreements arise between each of them. Between environmental protection and economic growth, there is a disagreement regarding natural resource use. There is also a similar conflict between social equity and environment, questioning whether to preserve nature or expand cities. The conflict between economic growth and social equity revolves around whether available land should be used for businesses or neighbourhoods. Since there is no clear solution to these conflicts, planners must decide how to prioritise these elements. Too much focus on one of the elements prevents sustainable development from being achieved in practice. While the theory of sustainable development is hard to put into practice, planners are directing their efforts towards that ideal²⁴.

2.4.1 The Ideals of a Sustainable Neighbourhood

In the article *Sustainability and infrastructure planning in South Africa: A Cape Town case study*²³, Mark Swilling argues that, although planners have a hard time implementing sustainable development, there is a way to create completely sustainable neighbourhoods. According to Swilling, the outcome of sustainable neighbourhoods in Cape Town should be recognised as a decrease in the cost of living for impoverished communities. This would be accomplished, first, by making households less dependent on non-sustainable resources, and second, by building houses that would create less financial burden to the occupants in the future. For example, Cape Town is dependent on non-sustainable resources, like oil. City money that is invested in these resources reduces the amount of money available to help the local economy. Most planners working on housing settlements in Cape Town have not been taking the overuse of these resources into account. Therefore, they continue to incorporate them into low-income housing, increasing the cost of living for families. Sustainable neighbourhoods take these issues into account and try to create ways to address them.

Swilling proposes that there are a number of steps necessary to create sustainable neighbourhoods, several of which are relevant to the New Housing department. These relevant procedures aim to reduce the use of non-renewable resources. One of the ways in which this can be achieved is through the use of renewable energy, such as solar energy and wind turbines. Use of sustainable and local construction materials is another important step. To cut down on the use of water, which can be expensive for a low-income family, water recycling programmes should be implemented. This type of programme allows grey water to be reused in toilets and for irrigation.

While most sustainable development efforts in Cape Town are present only in theories and plans, Lynedoch, located in the Cape Winelands, is one example of a successful sustainable micro-neighbourhood. It is a mixed race ecovillage that contains twelve households, as well as community facilities. It follows the methods outlined above and has achieved a balance between ecological, social and environmental sustainability²⁵. Although is considered sustainable, it is questionable whether the methods used would be viable and successful in a larger community. Nonetheless, Lynedoch is still an example of the efforts being made towards achieving sustainable development.

2.4.2 Sustainable Development Efforts in Cape Town

The City of Cape Town HD agrees that sustainable development would be a beneficial goal in the creation of new low-income housing, but planners find it difficult to implement¹. The HD faces more constraints than simply balancing sustainable development priorities. The demand for housing is so high that time is severely restricted and sustainable development is often forgotten or replaced by faster, more convenient methods. This results in higher maintenance and upkeep costs in the future than if sustainable methods had been used.

The HD has limited funding²⁶. While ideas associated with sustainability may be affordable for a private organisation with outside funding, they are often expensive and unreasonable for the government to implement. The HD must decide which sustainable development goals are within their budget, and find ways to easily implement them. Since the HD does not use sustainable technologies as much as they would hope, our project highlighted some ways of implementing sustainable efforts that different regions or outside organisations have found useful and practical.

2.5 Case Studies

In our investigation of healthy community practices, most of the information we gathered came from nine case studies: the **Belhar-Pentech** housing project, the **Witsand iEEEco Village**, the **Du Noon** housing project, **Joe Slovo Park**, the **Indlovu Centre**, the **Stonehouse Project**, **Eco-beam**, the **Edward St.** project and **Sakhasonke Village**. These projects were chosen because of the information they were able to offer to the team.

2.5.1 Belhar-Pentech

The **Belhar-Pentech** housing project site, depicted by the yellow border (Figure 2.4), was a Northern Region greenfields project in Belhar, located east of the Cape Town CBD. Belhar is a neighbourhood of government subsidy housing that was built during the apartheid era. During our time in Cape Town, this project was in the planning and design stage.

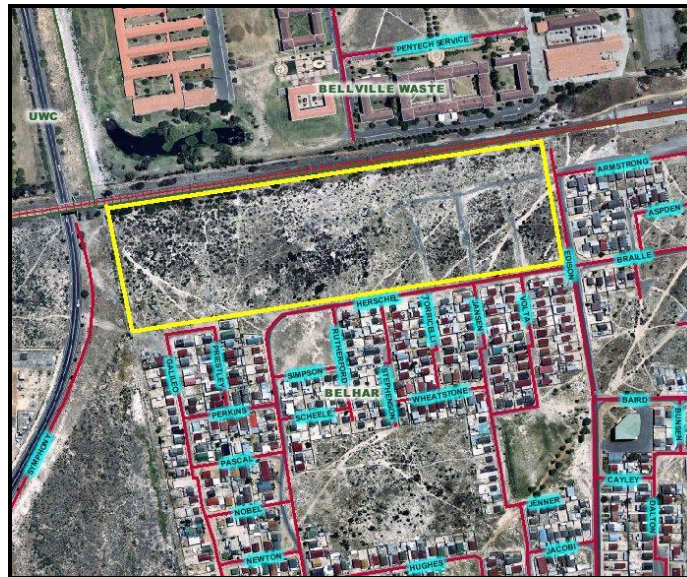


Figure 2.4: Belhar-Pentech Housing Project Site

2.5.2 Witsand iEEEco Village

The **Witsand iEEEco village** (integrated Energy Environment Empowerment Cost Optimisation-village) human settlement project in Atlantis, is a Northern Region informal settlement upgrading project being completed in two phases. Phase one was started in 2000 and was being constructed, completed and allocated during our time in Cape Town. It was considered

a pilot for the rest of the project. Phase two was in the planning stage, and would also follow the energy efficient housing model⁷. The entire project site is shown Figure 2.5, bordered in yellow, while phase one of the project is the area bordered in blue. The project was considered an eco-village due to its energy efficient design. It was a cross-functional endeavour, designed to empower the community by providing shelter, saving energy, reducing pollution, and improving health and safety conditions. The key benefit was that houses demanded less energy and reduced pollution, with a projected specific carbon waste reduction of 0.5 tons per family every year. The goal of this project was to not only implement eco-friendly techniques, but to also raise energy and environmental awareness in the community²⁷. This allowed the community to remain involved in the process and helped them understand how their homes were built and maintained in a healthier, unique way.

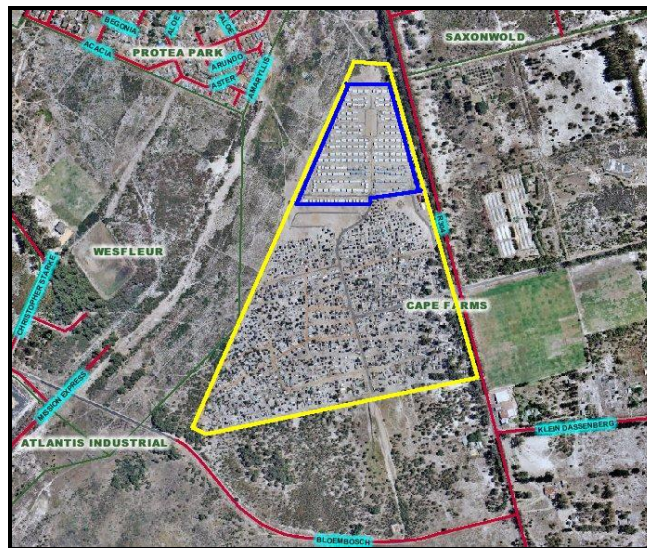


Figure 2.5: Witsand iEE Eco Housing Project Site

2.5.3 Du Noon

We also studied a completed project to identify previous mistakes and current problems. The **Du Noon** housing development (Figure 2.6) is a Northern Region project that included 2,964 housing units that were completed in 2000. Since that time, problems such as defective houses and incorrectly allocated units as well as social problems have been discovered. It is considered by some the “worst planned and implemented project in the region”¹.

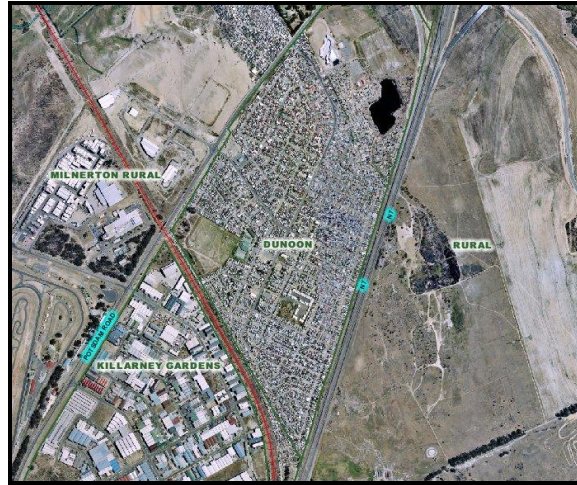


Figure 2.6: Du Noon Project Site

2.5.4 Joe Slovo Park

This housing development was the first low-income community created after apartheid ended. It was strategically located next to an industrial area and an upscale residential neighbourhood, in order to support integration and maximize employment opportunities. It is currently very dense due to its prime location and, therefore, a need for more housing has been recognised. Depicted below (Figure 2.7), the green site allows for 60 free standing housing opportunities; the yellow sites, 200 housing opportunities¹.



Figure 2.7: Joe Slovo Park Project Site

2.5.5 Indlovu Centre

The **Indlovu Centre** is a project funded by the Shaster Foundation. It is located in Monwabisi Park of Khayelithsa, and currently includes a youth centre, health clinic, soup kitchen, guest house and crèche (Figure 2.8), all of which were built using innovative technology and community participation. Current and future initiatives at the **Indlovu Centre** include a community centre and housing using the same innovative technology.



Figure 2.8: Crèche at Indlvou Centre

2.5.6 Stonehouse Project in Mbekweni

At the Mbekweni Housing Development, located near Paarl in the Western Cape of South Africa, the **Stonehouse** Project (Figure 2.9) was created by the Department of Local Government and Housing. This is an innovative research project in which local and recycled materials, solar energy and community participation were used. The purpose of the project was to see what innovative ideas were plausible and accepted by the community.



Figure 2.9: First Stonehouse built at Mbekweni

2.5.7 Eco-beam

Eco-beam is a company, created by Mike Tremeer, which uses sand-bag and **Eco-beam** technology to construct houses (Figure 2.10). This technology is inexpensive and can be built using community participation. It has been used to build houses throughout South Africa, and has also been used in all buildings at the **Indlovu Centre**.



Figure 2.10: Eco-beam Technology Being Used to Build a House

2.5.8 Edward St. Project in Grassy Park

The **Edward St. Project** is a Southern Region initiative in the planning stage. Managed by Pauline Houiniet, the project will use technologies similar to the **Stonehouse Project** as well as innovative community participation and interdepartmental collaboration.

2.5.9 Sakhasonke Village

Located in Port Elizabeth in the Eastern Cape, this subsidized housing village (Figure 2.11) was a pilot project sponsored by General Motors South Africa Foundation, the Social Housing Foundation, and the Social Housing Focus Trust. The goal of the project was to support socio-economic development of low-income communities, essentially establishing a mixed-use development neighbourhood. Houses were two story duplexes, with a few triplexes, in order to densify the area, and were placed around an open, green community space. A community centre functioned as a hall, a crèche, and a place of worship. Housing design also provided for space alongside homes with the opportunity to expand or to create gardens.



Figure 2.11: Sakhasonke Village, Port Elizabeth
(<http://www.sabcnews.com/fokus/20070408e.html>)

3. Methodology

The purpose of this project was to assist the City of Cape Town Housing Directorate to build healthy communities by compiling and sharing lessons learned regarding low-income housing practices and processes. In order to accomplish this, we investigated best practices for housing development and included selected practices in a knowledge management system which was aimed at improving organisation and communication. We accomplished this goal by completing the following objectives.

1. Identifying best housing practices in the Northern Region.
2. Using literature, case studies and interviews to investigate ways of implementing identified practices.
3. Developing the framework for a knowledge management system.
4. Communicating lessons learned to various audiences.

3.1 Identifying Best Practices

We used key informant interviews and literature reviews to collect information regarding the best development practices in the Northern Region. We also identified any policies used that supported best practice as well as any that hindered them. After reviewing many different practices, we chose five best on which to focus our studies.

Key informant interviews are used to obtain information from a source that has reliable information on the subject being studied²⁸. We chose key informant interviews as a way to collect data on best practices because we were able to receive information from professionals who work with housing development in Cape Town on a daily basis. Although the team was never able to have a formal focus group discussion with members of the Northern Region as planned, we attended several group meetings ranging from weekly staff meetings to sub-council meetings at which we collected pertinent information.

We frequently interviewed our liaison Duke Gumede, the Head of New Housing in the Northern Region. Mr. Gumede has a strong understanding of the daily practices in the Northern Region as well as practices used elsewhere. We spent time with him, shadowing him and witnessing housing projects for ourselves. Through our time with Mr. Gumede we were able to

acquire a strong understanding of the housing process, knowledge of best practices, literature and policies on the housing process.

3.2 Case Studies and Interviews

Once best practices were identified through our work in the Northern Region, we used case studies, key informant interviews, and further literature reviews to discover the methods, used mainly throughout South Africa, to implement these practices. To conduct interviews, we developed a general script of questions for each interviewee. We adapted these questions during the interview to collect relevant information and to probe for further details. The following is an example of the basic questions we used during these interviews:

1. What are the benefits to this practice?
2. What are some of the negative effects of implementing this practice?
3. What ways do you implement this practice?
4. Why did you choose this type of implementation over others?
5. What factors contribute to the implementation of this practice?

We were also able to attend several workshops, conferences and meetings with both the city and NGOs, such as DAG. These types of organisations are excellent resources to utilise when it comes to best practice for housing development. Table 3.1 shows the informants that we interviewed both formally and informally through our time in Cape Town. Table 3.2 includes a short description of the meetings and other gatherings we attended.

Interview	Position/ Organisation	Interview Topics/ Case Study
Duke Gumede	Head of New Housing- Northern Region	Miscellaneous
Malvern Cupido	New Housing Project Manager- Northern Region	Witsand iEEeco Village project
Martin Scott	New Housing Project Manager- Northern Region Previous Town Planner	Town planning, interdepartmental collaboration and planning community facilities
Pauline Houniet	Head of New Housing- Southern Region	New Housing in the Southern Region
Mawethu Pemba	New Housing Project Manager- Southern Region	New Housing in the Southern Region
Darryl Kruger	Western Cape Project Manager	Mbekweni Stonehouse Project
Lucas Yiba	Ward Councillor- Witsand	Witsand iEEeco Village project
Elizabeth Gula	Community Development Worker- Du Noon	Problems in Du Noon specifically focused on the lack of community facilities
Di Womersley	Shaster Foundation	Indlovu Centre efforts
Mike Tremeer	Eco-beam Construction	Innovative sustainable technology
Various Community Members	-----	Miscellaneous

Table 3.1: Information Regarding Interviews

Meeting	Organisations	Purpose
Belhar Project Meeting	City of Cape Town- Northern Region	Perspective steering committee member meeting
New Housing Department Northern Region Meetings	City of Cape Town- Northern Region	Weekly staff meetings
Belhar Community Meeting	City of Cape Town- Northern Region	Community elections of housing project steering committee
Friends of DAG Seminar	Development Action Group	Best practices for informal settlement upgrading
Community Facilitator Meeting	City of Cape Town- Northern Region	Valhalla Park community facilitator position discussion and acceptance
Housing Information Sharing Session	Department of Local Government and Housing- Western Cape	Highlighted some of the issues being faced in Western Cape subsidy housing and suggested some solutions
Summit on Sustainability	Sustainable Development Systems	Innovative sustainable ideas for low income/ subsidy housing
Doornbach and Du Noon Sub-council Meeting	City of Cape Town	Members of Doornbach and Du Noon settlements voiced complaints to city officials and sub-council members
Belhar-Pentech Project Steering Committee Meeting	City of Cape Town- Northern Region	Fortnightly steering committee meeting

Table 3.2: Information Regarding Attended Meetings

Using the information obtained from the interviews and other gatherings, we documented the different ways of implementing these best practices. Our results include a description of each practice, policies that relate to them if any, and the different ways of implementing them. Within the description of different ways to implement the best practices, we included some of the gaps of the method. This will allow the Housing Directorate to find the best method of implementation for specific circumstances.

3.3 Knowledge Management System

After identifying best practices and different ways of implementing them, we organised our findings and made them accessible to the HD and other organisations. We chose a knowledge management system as a way to organise this information, as well as information to be gathered by others in the future. A knowledge management system (KMS) is a tool for the collection, organisation, storage, and distribution of knowledge and ideas. The ideal KMS is dynamic, allowing for users to continually change, by updating or adding and deleting, the knowledge organised and stored within it.

Government organisations have a special need for knowledge management systems since coordination between different branches, as well as easy adaptation to new ideas and conditions, are critical. A KMS is important to the HD, both as an organisational tool and as an advanced form of communication between the four regions and different departments. With a KMS information may be distributed accurately and quickly to members²⁹. This can create advanced communication, enabling members to effectively share ideas with a large audience, which results in higher levels of innovation. An organisation using a KMS is less likely to duplicate unsuccessful efforts since lessons learned are communicated to all users.

The KMS we created for the HD contains the five best practices we studied, as well as several methods of implementation and some key features. This will allow future users from both the city and NGOs to learn from others and implement the same procedures. New ideas and possible solutions to problems as well as accounts and warnings of mistakes may be shared. In addition, the KMS allows new employees of the HD to quickly understand previous and current practices and different ways of implementing them. It will also provide the opportunity for upper management and other professionals to gain insight into the best practices.

To decide what form the KMS should take, we took several factors into account. Our main concern was the type of information that would be included in the KMS. Since the information we decided to include was qualitative rather than quantitative, a database would not have been appropriate. Instead, we decided to create an informational booklet, accessible in both hard and electronic copies. The hard copy will allow easy access to the HD, community members, and NGOs, while the electronic copy can be updated, making it semi-dynamic. This simple booklet is “user-friendly” and does not create the need for any special software or training.

3.4 Communications

In order to help the Housing Directorate improve their housing delivery process, we needed a way to communicate our findings. We had hoped to present our findings to various audiences; however, scheduling did not permit this. We instead created a PowerPoint file that we showed to our sponsor and allowed him to keep for future use. We also made our KMS available to the employees of the HD and the City of Cape Town as a whole.

The audiences that our presentation file and KMS were meant to reach were a diverse group and having an understanding of each was important. Comprehending their role in the hierarchy of the Cape Town government helped guide how we presented our material. Also, understanding the strengths and limitations of each group helped us identify appropriate forms of media.

3.4.1 Audiences

The presentation file and KMS that we created were capable of reaching three main audiences. The first was upper management, which includes senior executives in the housing department, high ranking city officials, and the mayor. These are the individuals making decisions that influence the entire city and the HD. They obtain and allocate funding, decide what issues are most important, and make sure the city and the HD run smoothly.

The second was middle management, which includes HD department heads, employees, and contractors. These are the individuals that make sure the goals of the upper management are accomplished. They set up and implement the planning, design, construction, and maintenance

process for housing development in the city. They aim to create deliverables quickly and efficiently.

The third was the community, which includes community leaders, such as Ward Councillors, street committees, the people living within the affected communities, and the general public. These are the people whose lives are directly affected by the work that the Housing Directorate does. They may receive or buy the deliverables that the middle management creates and are the ones who will live with both the positive and negative consequences.

3.4.2 Communication Content

After assessing the content we wished to share in the PowerPoint file and the audiences with which we were communicating, we decided to include the best practices we identified and several ways to implement them. It was also important to include a short explanation of how we obtained the information for our project so that the HD and other organisations could replicate similar efforts in the future. We chose to include a quick overview of the KMS and its purpose so that our audience would be able to make use of it.

3.5 Ethical Considerations

Throughout this project, we needed to take several ethical considerations into account. The first set of considerations dealt with all interviews. It was necessary to explain to each informant that our goal was to improve the overall practices of the HD, and that we were trying to help them voice and share their problems and solutions so that others could learn from them. We also needed to consider confidentiality, therefore it was important to explain how we planned to use the information we obtained from the interviews. We discussed the level of confidentiality and disclosure they were comfortable permitting.

When presenting our findings, whether in our final paper or in communication tools, we did not want to target any organisations when discussing problems with different ways of implementing best practices. We therefore tried to generalize issues, and focus them on housing development as a whole where possible, rather than on separate people or organisations. We also tried to discuss problems in a positive way, putting focus on how our research will help to improve the situation.

4. Results and Analysis

The focus of this project was to identify and examine best practices in housing development which contribute to building healthy communities. By spending time with the Northern Region New Housing Department we identified five best practices: community participation, mixed-use development, community facilities, sustainable efforts, and interdepartmental collaboration. We then used interviews, case studies and literature reviews to discover different methods of implementing these practices.

This chapter contains our knowledge management system, which includes the main points described for each best practice and implementation methods. This serves as a guide to the best practices. For the five practices, each written section includes a description, the different ways of implementing them, the advantages and disadvantages of each of these methods, and our suggestions for improving them.

4.1 KMS: Best Practices in Building Healthy Communities

This guide is a consolidation of the lessons we learned in the housing development process. Each practice highlighted in this guide is linked to its full description further within the results.

Community Participation

Importance

- Better fulfils specific needs of community
- Creates sense of ownership and fosters pride in the community
- Generates local employment opportunities
- Provides skills and training for future jobs
- Enhances community cooperation and collaboration throughout project development
- Enables community buy-in of innovative technologies

Implementation Methods

- Project Steering Committee
- People's Housing Process
- Community Education and Training
- Prototyping

The Gap

- Underutilisation of participation opportunities
- Problems with current programmes
- Lacking balance between bottom-up and top-down approaches

Filling the Gap

- Increase implementation of current methods
- Current programme improvement
- Incorporating initiatives used by other organisations
- Multi-method approach

Community Participation: Housing Project Steering Committee

Features

- Promotes transparency and understanding of project
- Relays community needs to project manager
- Allows for negotiation and community input in project decisions
- Enhances leadership skills to members

Case Studies

- **Belhar-Pentech** Project, Belhar

The Gap

- Only current leaders of CBOs eligible for membership
- Community representatives biased towards personal organisation's members
- Leaders do not always identify with community needs
- Improperly and inadequately informed community
- Opportunity for undemocratic selection methods exist

Filling the Gap

- Identifying potential future leaders to be eligible for the committee
- Allow membership opportunity for non CBO leaders
- Periodically surveying individual community members
 - Awareness and understanding level
 - Needs and wants in project
 - Satisfaction with progress
- Creating guidelines requiring supervised, democratic elections

Community Participation: The People's Housing Process

Features

- Completely bottom-up method
- Beneficiaries contribute “sweat equity” saving money on labour costs
- Saved money used for additional housing materials
- All project related decisions made by the future home-owners
- Workshops and training for PHP beneficiaries

Case Studies

- **Witsand iEEeco Village**, Atlantis

The Gap

- Only successfully implemented for projects with 300 or fewer houses
- Non-professional labour leads to lesser quality construction
- Time consuming
- Flexible policy leads to deviation from original purpose

Filling the Gap

- Adjust process for larger scale projects
- Devise a partnership between professionals and community
- Engage entire community to utilise individual skills in each project
- Create structured policies for different types of PHP:
 - Managed
 - Large scale
 - Small scale

Community Participation:

Community Education and Training Programmes

Features

- Programmes like HCE educate beneficiaries about the housing process and responsible home ownership
- Training and education workshops are used for specific projects
- Booklets, pamphlets and posters can be used

Case Studies

- **Witsand iEE Eco Village**, Atlantis

The Gap

- Illiteracy accounted for minimally in communication mediums
- Classes not made available to all communities (pilot programme)
- Beneficiaries often unable to visualize concepts
- Individuals often do not grasp long term value of lessons
- Inadequate distribution of information

Filling the Gap

- Less reliance on written explanations
- Use programmes in all new housing developments
- Create visuals, models and prototypes
- Show, rather than describe, long term benefits
- Utilise multiple approaches to share information
 - Flyers and posters
 - Skits
 - Radio shows and audio tapes

Community Participation: Prototyping

Features

- Promotes understanding and acceptance of innovative technologies
- Leads to community support or buy-in
- Show houses can be used to let beneficiaries to choose top-structures
- Technologies can be tested before completely investing

Case Studies

- **Indlovu Centre**, Khayelitsha
- **Stonehouse** Project, Paarl

The Gap

- Show houses not readily used
- Infrequent use with innovative technologies
- Creation of prototypes generally late in planning process
- Time consuming
- Little opportunity for feedback

Filling the Gap

- Construct show houses for every project
- Encourage use by project managers
- Use prototypes at beginning of planning
- Use existing projects as prototypes for new projects
- Allow for improvement suggestions from beneficiaries

Green Technology

Importance

- Provide healthier environment in addition to benefitting the community
- Increases awareness and fosters sense of caring for nature
- Reduce waste and cost

Implementation Methods

- Dry sanitation
- Rain-water harvesting
- Recycled and Local Building Materials
- Passive Solar Energy

The Gap

- Often limited knowledge of existing technologies
- Community buy-in challenging with innovative technologies
- Perception that implementation is difficult
- Not widely implemented
- Current policy unsupportive
- Time and funding limited

Filling the Gap

- Provide project managers with database of innovative technologies
- Include lessons on innovative technologies during employee training
- Adjust community perception for buy-in
 - Use by elites; politician support, celebrity support
 - Education
 - Prototyping
- Supply project managers with support and special funding for green technology use

Green Technology:

Dry Sanitation

Current HD Practice

- Flush toilets
- Some dry sanitation initiatives

Features

- Requires no water or sewer infrastructure
- Organisms or dehydrating agents used to break down faecal matter
- Specific storage period for matter to sufficiently break down
- Creates organic compost

Case Studies

- **Indlovu Centre**, Khayelitsha

The Gap

- Policy only allows for flush toilets
- Viewed as dirty and substandard by community
- Incorrect usage and maintenance of existing models
- Possibility of sickness spreading

Filling the Gap

- Creating policy that supports dry sanitation use
- Adjusting community perception through education and support from elites
- Periodic assessment of toilet use to ascertain level of success
- Allowing enough time for stored matter to decompose or dehydrate completely

Green Technology:

Domestic Rainwater Harvesting

Current HD Practice

- None

Features

- Collection of water from rooftop and courtyard run-off
- Stored in above or below ground tanks
- Used for domestic purposes
- Less of a dependence on municipal water supply
- Saves money for both city and beneficiary

Case Studies

- **Indlovu Centre**, Khayelitsha

The Gap

- Not widely implemented
- Lack of rain water in dry season
- Misused through ingestion
- Incorrect tank size, resulting in standing water
- Possibility of sickness due to contamination and insect infestation

Filling the Gap

- Increase knowledge of technology and communicate practicality of use
- Supplement with municipal water
- Inform community of risks from ingestion
- Survey families on size and current water usage
- Educate community on proper use

Green Technology: Building Materials

Current HD Practice

- Mortar and concrete block or brick

Features

- Using resources available at project site
- Reusing waste materials from demolition sites and movie sets
- Obtaining off cuts from companies for potential building materials
- Creates employment opportunities
- Transportation costs minimized or eliminated

Case Studies

- **Stonehouse** Project, Paarl
- **Eco-beam** Construction
- **Indlovu Centre**, Khayelitsha

The Gap

- Policies require use of brick or cement blocks
- Difficult to find waste material suppliers
- Viewed as substandard, second-hand house by beneficiaries
- Time consuming to collect, clean, and reuse materials

Filling the Gap

- Utilise pilot programmes to gain HD support and policy flexibility
- Create a database of previously used suppliers
- Explain benefits
- Refer to materials as recycled, rather than waste
- Employ locals and develop skills to increase productivity

Green Technology: Passive Solar Energy

Current HD Practice

- Used in some projects

Features

- Regulates house temperatures using sun; warm in winter, cool in summer
- Specific house construction to make best use of sun
 - Northern facing houses
 - Large windows on north side, small on south side
 - Specific roof pitch and eave length
 - Uncarpeted, high thermal mass floors

Case Studies

- **Stonehouse** Project, Paarl
- **Witsand iEE Eco Village**, Atlantis

The Gap

- Not widely implemented
- Current design orients house with regard to infrastructure
- Beneficiaries do not always take advantage of full solar benefits

Filling the Gap

- Spread knowledge of successful implementation
- Balance solar energy features with town planning layout and infrastructure placement
- Use flyers and meetings to inform beneficiaries how to optimize use of solar energy

Mixed Use Development

Importance

- Work, home, and social opportunities within close proximity of each other
- Self-sustainable environment
- Urban sprawl minimized by condensed communities
- Transportation less necessary
- Promotes entrepreneurship and employment
- Social and health problems reduced

Case Studies

- **Joe Slovo Park**, Milnerton
- **Sakhasonke Village**, Port Elizabeth

The Gap

- Underutilised form of development
- Land mainly allocated for only residential housing
- Little collaboration between economic, housing, and community development departments

Filling the Gap

- Policy to incorporate social and economic opportunities in housing projects
- Allocate land for mixed-use development without decreasing number of housing opportunities
- Make use of interdepartmental collaboration
- Allow private investors to develop businesses within communities

Community Facilities

Importance

- Provide opportunities for social programmes and services
- Aid in building social and economic networks
- Help prevent crime, drug abuse, violence, and other social problems
- Can contribute to health awareness and directly improve individual's health
- Empower youth
- Create a space for community gatherings

Case Studies

- **Indlovu Centre**, Khayelitsha

The Gap

- Lack of synergy between housing and community development
- Space allocated not always developed
- Do not always meet community needs
- Often inadequate number of facilities present
- Community land often forfeited for housing opportunities

Filling the Gap

- Expand interdepartmental collaboration
- Synchronize development of both housing and non-residential facilities
- Increase community and leadership participation
- Allow the community to determine type of facilities needed, without option of elimination

Collaboration

Importance

- Increases communication by expanding the knowledge base
- Synergy enhances abilities and efforts of each individual
- Increases possibility for innovative projects
- Maximum utilisation of resources
- Decreases duplication of mistakes through sharing

Case Studies

- Edward Street Project, Grassy Park

The Gap

- Communication between regions not promoted
- Minimal interaction with departments outside of the housing process
- Insufficient sharing of lessons learned between departments, regions, and NGOs

Filling the Gap

- Periodic round table meetings between regional heads
- Project focus groups with all departments beneficial to the community
- Seminars with representatives from different organisations to share experiences, perspectives and suggestion

4.2 Community Participation

Community participation is a tool often used in developmental projects, but finding the most effective form for a specific project can be challenging. There are different opinions of what community participation is, as well as different ways of implementing it, each having advantages and disadvantages. When used correctly, participation can add greatly to the success of a project. Getting the community's opinion allows for a better understanding of their wants and needs. When these needs are misunderstood or unknown, the resulting project is more likely to fail. Utilising appropriate community participation leads to better deliverables and more support³⁰. When the beneficiaries feel involved they are more likely to accept and enjoy the end product than if they feel like the decisions have been made for them and the results forced upon them.

Community participation also gives project leaders a chance to engage and teach the community. It creates immediate jobs for project beneficiaries, ranging from desk jobs to physical labour. In addition, by teaching the community the development process, the participants learn life skills valuable for acquiring future jobs⁷. This empowers the beneficiaries for the future rather than just creating housing.

Project managers have the opportunity to share innovative housing options with the beneficiaries through community participation. In the past, innovative ideas, such as dry sanitation, have often lacked support from communities due to a lack of understanding of their benefits, as well as the stigma that has been attached to any type of housing materials or technologies that are not used by elites³¹. Creating a healthy relationship where the beneficiaries feel as though their concerns and needs are heard may help open their minds to innovative ideas that, when misunderstood, they would have been likely to reject.

There are two extremes in the amount of community participation in a project; one in which the beneficiary does not participate at all and every decision is made from the top-down, and one in which the process is bottom-up and the beneficiary is responsible for all or most of the decisions. Top-down projects tend to be ones involving a large number of houses that are built relatively quickly, where the community has little say in the development process. Bottom-up projects, conversely, allow the community to take the lead; however, these initiatives are

generally done on a smaller scale and tend to be time consuming⁸. Neither of these methods is suitable for every project, and therefore a balance between the two extremes must be found.

After carefully studying different methods of implementing community participation, we feel as though it is necessary that the New Housing department utilise multiple programmes in each project, including the current methods and those used by other organisations to fill several of the gaps. While community participation is currently used in most Northern Region housing projects, there is room for improvement. As a whole it is underutilised, problems exist in current programmes and the important balance between bottom-up and top-down approaches is not usually been achieved. This section includes descriptions of several implementation methods (housing project steering committees, the people's housing process, community education and training, and prototyping) as well as some of the gaps in the programmes and suggestions for improving them.

4.2.1 Housing Project Steering Committee

A housing project steering committee (Figure 4.1) is one of the ways the community is engaged in housing projects in the Northern Region. Its purpose and the membership obligations are fully outlined in the policy document entitled *Housing Project Steering Committee*³². The committee represents the community throughout the housing development process by working with the city to make decisions related to the project, such as how housing opportunities will be allocated. It is also responsible for making sure everything runs smoothly between the city and the community.



Figure 4.1: Belhar-Pentech Project Steering Committee Meeting

In order for projects to run smoothly, the steering committee helps facilitate communication between the city and the community. The members must also make sure that the project is implemented in a transparent way, such that all beneficiaries understand the housing project decisions and progress³². Forms of communication can include community meetings, newspaper announcements, small group discussions or neighbourhood postings. It is up to the steering committee of each individual project to decide the best way to inform the community.

A housing project steering committee includes eleven members (Figure 4.2): five governmental representatives and six representatives from community based organisations (CBOs) based within the affected community. These members are responsible for serving until the end of the project at which time the steering committee is disbanded.

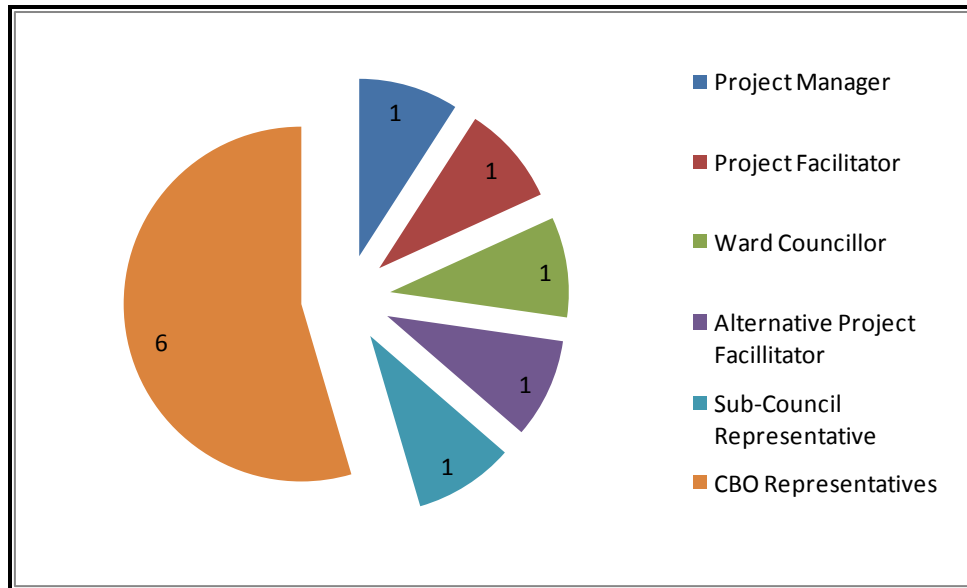


Figure 4.2: Membership of Housing Project Steering Committee

In past projects in the Northern Region, different methods have been used to choose the six community representatives (Table 4.1). The ward councillor is sometimes solely responsible for choosing the committee, which makes this part of the project easier for the Housing Directorate; however this has some inherent problems. When chosen by the ward councillor, the project can become polarized over politics and members may not always represent the community as a whole, but rather limited parts of it. That not only defeats the purpose of using representatives for the voice of the entire community to be heard by the city, but also limits the number of people that are kept informed of the housing project decisions and progress³⁰.

The method we identified as best for creating a project steering committee is through a democratic community election which allows the entire community to feel involved and allows for a wider variety of steering committee members. However, elections can be difficult for the city to manage and are more time consuming, as witnessed in Belhar for the **Belhar-Pentech** housing project. These elections included several different challenges, such as multiple people attempting to vote more than once, and a second vote needed to take place. Although there are inherent challenges to elections, we suggest them as a good practice and as a reasonably fair, unbiased way of creating a steering committee.

Selection Method	Advantages	Disadvantages
Ward Councillor Selection	<ul style="list-style-type: none"> • Less pressure on HD 	<ul style="list-style-type: none"> • Politically polarized • May represent limited parts of community
Democratic Community Election	<ul style="list-style-type: none"> • Wider variety of members • Decision involves entire community 	<ul style="list-style-type: none"> • Physical challenges with elections • More time consuming

Table 4.1: Comparison of Member Selection Methods

There are several more gaps in the current project steering committee which can be improved. Only representatives of CBOs, selected by the organisation themselves, can participate on the committee. These selected members may misrepresent community needs since they may not share the same views as the other community members, nor recognise all of their needs. Members can also be biased and allow the members of their organisation to benefit more than others³⁰. When relying only on CBOs, the community may not be adequately informed about the project.

To help solve these problems, we suggest that non-CBO leaders have the opportunity for membership. These community members should be chosen using a method planned for a similar committee in the **Edward St. Project**: by surveying the community to identify future leaders who will benefit most from enhancing their leadership skills. These members may better identify with the needs of the community, as well as to keep beneficiaries better informed. Periodic surveys should be completed by the project manager to gauge the level of understanding about the project to make sure this informing is adequate.

4.2.2 The People's Housing Process

The People's Housing Process (PHP) is a bottom-up housing delivery method created by the South African National Housing Department and documented in the National Housing code. It is used by the Northern Region of the City of Cape Town, as well as by outside NGOs and CBOs. The process utilises a concept called "sweat equity" in which the housing beneficiaries contribute to the project through their physical labour, and in return have more input on the project. This concept allows the community to have a greater say in details of the housing process such as the housing typology, materials, and forms of assistance that will be used when needed³³.

All levels of the government, from national to regional, act as stakeholders in the PHP; however, NGOs can also be part of the process. For every PHP there are several roles outside of the government that must be fulfilled for the project:

- Support Organisation
- Account Administrator
- Housing Support Centre
- Certifier
- Housing Support Committee
- Technical Advisor
- Beneficiaries

PHP projects can be initiated when either the government or beneficiaries identify the need for one. Beneficiaries are required to attend a workshop, in which they discuss different aspects of the project. Elections take place at workshops when the community is responsible for choosing the role players mentioned above.

The beneficiaries make the decisions throughout the planning and design stages, with technical assistance from the government to make sure they meet national housing standards. They also perform some construction work, while choosing professionals to help when the work is too advanced. To ensure progress during construction, a timetable is created for the construction phase which the beneficiary is required to follow, except when there are justified reasons for delay.

PHPs are funded by government subsidies. Beneficiaries can contribute more money to the project if they have money available, an approach called end-user financing. The beneficiaries can lower the cost of their homes by contributing to the labour. This allows them to have more money for materials to “build bigger, better homes” if they choose³⁴. Other benefits include an increase in the involvement of the community, employment opportunities, and collaboration between the community and the local government.

Some of the community members involved in the **Witsand** project PHP attended intensive training workshops. After completing these workshops, and working on the housing projects, these participants received certification and accreditation for their training⁷, which better equips them to get jobs in the future, thereby using the housing process to reduce unemployment and poverty.

The PHP, however, is time consuming and, without proper support, can become overwhelming for the beneficiary. Due to this, the city usually uses the process on projects with 300 or fewer

houses. Additionally, construction by the beneficiaries may be low quality, which was a problem with the first **Stonehouse** project house. According to a 2003 study, only 10% of housing projects in South Africa are done using the PHP due to lack of time availability and project scale restrictions³⁵.

The process must therefore be adjusted to be used for larger scale projects. One of the ways we suggest to do this is to create a partnership between the community and professional builders, allowing the community to make project related decisions and contribute with labour, but under the guidance of professionals rather than on their own. This would create higher quality housing and make the project less time-consuming. Programmes such as the “Managed PHP”, used for part of the **Witsand** project, allow contractors to be part of the project, but sometimes take too much control away from the beneficiaries³⁵. Therefore, these programmes must be monitored and structured to make they do not deviate from the original purpose of the PHP.

4.2.3 Community Education and Training Programmes

One approach to community participation in development which is usually present in programmes such as the PHP is educating and training the community. Training is used by many organisations through different project phases and the programmes cover a variety of topics, from manual work to the responsibilities of owning a home. These programmes usually have the same goals in mind; to engage the community in the project, and provide valuable skills for the future.

The Housing Consumer Education (HCE) Programme is a training initiative that educates communities and enables them to “make informed decisions regarding housing options”³⁶. This is an interactive programme which includes classes and a user friendly workbook with activities aimed at educating home owners. A six week radio show was created in 2005 to accompany the programme.

The HCE covers various topics related to the housing process and home ownership. It begins with topics relating directly to the housing project, including an explanation of the government’s role in housing, saving money and housing finance, different types of subsidies available, and the housing development processes and procedures. It goes on to discuss contracts, home maintenance, and corruption and fraud in housing³⁷. The books and classes available

through the HCE are available in three languages in the Western Cape: English, Xhosa, and Afrikaans, making the material valuable to most low-income communities in the area⁷.

The city also holds certain training and education programmes for specific projects, such as the workshops and training sessions held during the PHP. Other than classes and booklets, the HD uses materials, such as pamphlets or posters, to educate the community. One such poster, *Passive solar design for energy efficient housing*,³⁸ used in the **Witsand** project, showed the eco-technology that would be incorporated into the project using both written explanations as well as an illustration of the technology (Figure 4.3). DAG uses a similar technique by distributing pamphlets to the community focused on different housing topics, ranging from improving on a plot of land and increasing the warmth of a home, to the local government and housing subsidies³⁹.



Figure 4.3: Illustration from Witsand Poster

According to Michelle Kuenzi⁴⁰, community education leads to effective participation, and decision making. Educating beneficiaries of housing subsidies, for example, helps to highlight a need for maintenance and fosters skills to do so. When the participants embrace these lessons, the sustainability of the house can be improved and the market value of the house can rise, allowing beneficiaries to borrow loans against it or make money from it³⁶. Understanding can also lead to more pride in property and home, encouraging people to remain in their homes, and lowering the rates of crime and vandalism in the community.

Unfortunately, classes and education programmes such as the HCE are not available to all community members. HCE is a pilot programme and will hopefully be more widely spread in the future³⁶. Along with the use of other programmes, all communities should be given the opportunity to benefit from education initiatives. Most education materials rely heavily on written materials, and while these materials are available in Xhosa, Afrikaans and English, illiteracy can be a problem. Even when illiteracy is not a problem, beneficiaries may not be able to fully understand the value of the lessons or visualize the concepts.

Through these lessons learned, we have come to the conclusion that education materials must utilise visuals, models and prototypes to allow for better visualisation. This may help beneficiaries to understand the materials and better grasp the value of what they are being taught. To make sure that information gets adequately distributed, multiple approaches should be used which make use of flyers and posters, skits, radio shows and audiotapes. Some of these media are currently used, but they should all be utilised together to best distribute information.

4.2.4 Prototyping

In developmental projects, there needs to be community support or buy-in, which can be especially difficult to attain when innovative technologies are being used. One of the ways to achieve this support is by creating prototypes. The premise behind this method is that the community can see and understand how the structure and technology works.

This method of participation was used differently in two projects that we investigated; the Mbekweni **Stonehouse** project and the **Indlovu** project. In the **Stonehouse** project, one innovative house with passive solar technology and recycled materials was built by the community using the PHP. After critiquing the houses in meetings, prospective beneficiaries made suggestions for future development. This process was employed whenever a group of new houses was built, each aiming to incorporate the changes suggested in previous meetings. While creating the opportunity for community opinions to be incorporated, the prototype strategy also allowed the community to understand the sustainable technology. The people who lived in the houses that had already been built could testify as to how well it worked, particularly, how warm the house stayed in winter and how cool it was in the summer. This helped the community to accept some of the innovation, and opened them up to other technologies such as solar geysers⁸.

Along with gaining acceptance for innovative technology, the community was able to make suggestions so their needs and wants were truly met. Suggestions were often made about the houses that the planners would have never expected, such as the type of house (Figure 4.4). The first **Stonehouse** was lofted and had 70-square metres of space; however people preferred single story 40-square metre homes due to concerns about fire safety⁸. By making one home at a time, the planners were able to avoid creating multiple dissatisfactory houses. While this allowed the community to make choices, these choices may have been made too quickly, before beneficiaries truly had a chance to adapt to the technology.



Figure 4.4: Progression of Stonehouse Project due to Community Suggestions

The Shaster Foundation used prototyping to help the community understand and accept innovative ideas rather than to suggest changes to them. The **Indlovu Centre** is equipped with several dry-sanitation (earthworm decomposition) toilets that the community did not initially accept. To attain this acceptance, one of the toilets was put in the settlement and utilised by the community. After 18 months, the tubs, formerly containing human waste, were opened and the contents were revealed. When pure compost was exposed, the community began to embrace the technology, and more toilets were put in at the site⁴¹.

A similar technique was used when building the community centre at **Indlovu**. The centre was constructed using innovative **Eco-beam** technology, which uses sandbags to replace the usual materials (concrete blocks with bricks in the foundation) used in South Africa. By using these materials to construct a community centre before attempting to build a house, the community was able to understand the process and experience the finished building so that any resistance towards the innovation was lessened. This made them more likely to accept these building materials for the construction of their own home. In one case, members of the

community surrounding the **Indlovu Centre** in Monwabisi Park organised a march demanding that eco- beam technology be used in the construction of their homes⁴¹.

This method for prototyping can save money. If either the technology being tested fails or does not receive community buy-in, less time and money are lost. If the community members like the technology that has been tested, another advantage is that they can explain their feelings to others, helping innovative ideas become more widely accepted.

One of the main disadvantages to prototyping in general is that the process can take a long time, which organisations like the government do not always have. With the **Indlovu** dry-sanitation project, for example, it took 18 months to obtain community buy-in⁴¹. Also, in the **Stonehouse** project, the team must wait until each group of houses is built and lived in to allow the beneficiaries time to voice their concerns and the changes they would like to see. The current process is therefore not well suited for projects that must be finished quickly.

To solve this problem, we identified the need for a process to be used with larger scale projects. One of our suggestions is that prototypes or show houses are created early in the planning stage, when all of the details of the project, such as the forming of the project steering committee are taking place. This way, the prototypes will not delay the project and the community will be able to experience them before design begins. Projects such as **Stonehouse** and **Indlovu** should serve as examples of projects that cannot create their own prototypes. Trips to sites with relevant prototypes should be organised for community leaders and steering committee members to be able to experience the technology and share them with other beneficiaries. A relatively easy form of prototyping is creating show houses of different typologies and allowing beneficiaries to pick the homes they would like as done in **Witsand**. This can be done in a time efficient way if the homes are used for occupancy once they are used for show.

4.2.5 Other Methods of Community Participation

Throughout our time in Cape Town, we identified many ways of implementing community participation. We were unable to study every idea in detail, and below are some of the methods which were not studied but may still be valuable to the HD.

4.2.6 Social Rewards

An integral part of a healthy neighbourhood is a sense of community pride and a tight network amongst neighbours. Moving into new houses, beneficiaries lack this network and pride initially. Therefore, it is critical that some form of community gathering is organised after a group of beneficiaries has moved into a new community⁴¹. This gathering would help facilitate neighbourly relations amongst community members and would give them the opportunity to celebrate their new homeownership together.

4.2.7 End-User Financing

As mentioned, end-user financing is a practice used within the PHP and is also used in other housing programmes. It allows the beneficiaries to put money towards the construction of their house if they have extra money, which leads to the creation a larger or nicer home. In a housing project in Site C Khayelitsha, beneficiaries who were able to put money towards their homes received 42 square metre homes rather than 36 square metres⁴². The beneficiaries invest in their homes rather than just being given them, creating pride and appreciation.

4.2.8 Surveying Community Needs

In most City of Cape Town housing projects, the needs of the community are only found through efforts like project steering committees and town meetings. One practice that may be beneficial to the housing process is to survey the needs of each individual low-income family, which is planned for the **Edward St.** Project. This would give the City a better idea of what is truly wanted and needed in housing, allowing the housing officials to deliver better products.

4.3 Green Technology

Sustainability has been established as a valuable concept, both globally and in Cape Town. Green technology is an integral aspect of sustainability's environmental implications, working in conjunction with economics and equitable justice. The City has recognised its value and made provisions to implement green efforts, with some successes and some challenges. Green efforts include innovative sanitation, building materials, and efficient energy designs. Each has both positive and negative aspects, which are explored below.

4.3.1 Dry Sanitation

The standard model for sanitation in subsidized housing is a flush toilet, in which human waste is removed immediately from the house by means of water through municipal infrastructure. Conversely, dry sanitation is an alternate form of sanitation that requires no water or infrastructure and in which faecal matter remains stored in a tank and can be reused as fertiliser and compost. Therefore, it is more cost efficient and sustainable to use dry sanitation. However, the HD does not implement this often, because community perception is that this form of waste management is dirty and substandard, and therefore unacceptable. Lack of acceptance or understanding can easily lead to misuse, which can cause the spread of disease.

Community perception is that allowing faecal matter to remain in the house or toilet is dirty and they do not readily accept that resulting compost and fertiliser is safe and clean to use in gardens. Also, toilet paper cannot be thrown into the toilet and therefore it must be used minimally and disposed of elsewhere, which can be inconvenient. Dry toilets require consistent temperatures and pH levels, as well as storage time, to meet health safety standards. If improperly maintained, dry sanitation can increase the spread of disease and parasites, in addition to smelling poorly. Therefore, if users are poorly educated on usage and maintenance, the risk of disease spreading is high. It takes time for users to fully adopt dry sanitation, and therefore these challenges must be taken into account⁴³.

One place where dry sanitation has been successfully adopted is at the **Indlovu Centre**, an informal settlement in Monwabisi Park of Khayelitsha, Cape Town. To address community misconceptions, a single **earth worm toilet** was put in as a prototype and used by the crèche. After the first tub was filled, it was covered and sat for eighteen months while the earth worms fully decomposed the matter. The tub was then opened and the fresh, odourless compost was displayed to the community and used in the gardens. Since then, the toilet has been used profusely⁴¹.

Another place where dry sanitation is successfully used is in Vietnam. The **Vietnamese Dry Toilet** uses a two chamber system and dehydrating agents to store and dry matter. For optimal pathogen die-off, one chamber is used until full, then sealed with a layer of soil and mud, and the other chamber is put into use. By the time a standard family would fill up the second chamber, the first chamber should be adequately dehydrated, disease-free and ready for use as

fertiliser. The filled chamber is then left undisturbed for 6 months in order for appropriate the amount of pathogen die-off to be considered safe as compost. There is no way, however, to adequately control parasite infestation, so that must be considered when putting dry sanitation into a settlement⁴³.

Despite these drawbacks, well designed and managed dry sanitation supports the concepts of sustainability, allowing both waste removal and later supporting food growth. Creating policy that supports dry sanitation use would increase implementation by the HD. Education through workshops, prototypes, and flyers would help beneficiaries understand the benefits of dry sanitation and how to best use it, and getting support from political and community leaders would help adjust community perception. Periodic assessment of toilet use and length of storage would reduce risk of diseases spreading. All of these solutions would increase acceptance and implementation of alternative sanitation methods.

4.3.2 Domestic Rainwater Harvesting

Harvesting rainwater is a sustainable way to minimize water usage from city sources while maintaining or increasing water availability. This technique is not new to South Africa, having been implemented in Kwa-Zulu Natal and the Eastern Cape, as well as some other rural areas⁴⁴. It is also being implemented in areas of Cape Town, like at the **Indlovu Centre** in Monwabisi Park⁴¹.

One type of rainwater harvesting utilises underground storage tanks, which collect runoff, from streets and courtyards among other places. The South African government launched the Rain Water Harvesting Pilot programme in which 26 villages, across 4 provinces, were given these tanks with the goal of allowing the poor access to an alternative water source. Some potential drawbacks, especially for drinking water, include the risk of spreading diseases, through contamination, bacterial growth and insect infestation. Sizing is also important; if the tank is too small it will not catch optimal amounts of water. However, if it is too large, the result will be standing water, which then promotes bacterial and insect growth.

Another type of rain water harvesting involves above-ground storage tanks. These are currently being constructed at the **Indlovu Centre** for use at a laundry station and in a garden. The tanks will use rooftop runoff as the main water source⁴¹. This eliminates the potential for disease because the water is not intended for ingestion.

Unfortunately, there is a gap in the Cape Town housing development process; rainwater harvesting is not widely implemented. In order to increase the knowledge of this technology and communicate the practicality of its use, we suggest creation of a database that can be accessed by the entire HD and publishing articles in housing newspapers, like Contact, which would inform project managers and promote implementation. Realising the health risks involved, we recommend informing users of the risks of ingestion, and educating them on either proper domestic uses or decontamination methods to lower the risk of sickness. We also suggest surveying families on their level of water usage to allow for proper tank sizing, which minimizes the occurrence of standing water and subsequently the risk of algae growth and insect infestation⁴³. Overall, rainwater harvesting is a very simple, sustainable technology that would benefit both the community and the city.

4.3.3 Building Materials

Standard building materials include cement blocks, bricks, and mortar; however there are other, more sustainable options available. Waste material from demolition sites, dismantled movie sets, and other sources can be recycled and reused as building materials. This reduces material cost and minimizes environmental impact since the recycled materials are not added to landfills. Using local materials that are naturally present onsite is another sustainable technique that cuts down on transportation costs and time, and minimizes new material expenditures. A number of creative yet simple building material options exist, yet they have not been widely utilised by the HD.

Despite the advantages of using recycled and local materials, the HD has generally not made use of these valuable resources. Current policies require use of cement or brick and mortar, which severely limits creative use of materials. Also, project managers are often unaware of recycling and local resource opportunities, or they have a limited knowledge of waste material suppliers. Collecting, cleaning, and adjusting recycled and local materials, which can provide community employment, can be more time consuming than receiving a shipment of bricks and cement mix, which puts a strain on project managers' abilities to meet their quota. Community perception is also a challenge because beneficiaries often want the cement block and mortar houses that their employers have, regardless of the sustainability or practicality found in innovative housing types²¹.

At the **Stone House Project** site at Mbekweni in Paarl, the provincial government is collaborating with Sustainable Systems, a company that focuses on reusing building material waste and local resources. The project is researching use of local and recycled materials in housing developments. Mortar from demolition bricks was removed and reused in cement mix and bricks were cleaned to be used in building walls. The windows were made from glass off-cuts and the frames from left over pick handles. Granite slab waste from a countertop company was used to create floors in some houses; in the past, these slabs would have been dumped in a landfill. Corrugated steel roofing that was at the end of a roll, a non-standard size, or defective was collected and adjusted to fit the roofs of the Mbekweni houses. The majority of the timber used came from dismantled movie sets, as the film industry generally does not reuse materials from scene to scene. Insulation was also recycled from green sprite bottles⁸.

Sustainable Systems also utilises local resources to create their houses. These resources include both the physical building materials, as well as the community member skills. Utilising local labour, as well as training the locals in additional skills, is an integral aspect of Sustainable System's philosophy⁸. They also encourage local material use. In the case of the **Stone House Project** site, the land has a natural supply of stones (Figure 4.5), which were used to build some of the houses' foundations and walls. It also has a population of invasive blue gum trees, which were treated and used as shades. Sand removed to dig the foundations was then used in concrete mixes. Any local materials that were available were used⁴⁵.



Figure 4.5: Local Stones Used for Building Materials

Eco-beam is a local construction firm that also relies on local materials, specifically sand. The sandbag technique **Eco-beam** uses was implemented at the **Indlovu Centre** in Khayelitsha with success. The foundation was made by packing a shallow trough using sandbags filled with a mix of cement and sand from the nearby beach. A PVC sheet was placed on top of the foundation as a damp course to prevent moisture from penetrating through the floor. The house frame was constructed using **Eco-beams**, which are two parallel pieces of timber with a galvanised steel strip lattice in between. Filled sandbags were packed within the frame to create the walls, which were covered with plaster⁴¹. One such building has already been constructed by the community at the **Indlovu Centre** and another is currently being constructed (Figure 4.6).



Figure 4.6: Indlovu Sandbag Community Centre Foundation

This type of sustainable technology has not only been used in informal settlements, but in upscale buildings as well³¹. It is flexible; therefore modifications have been made to these houses, such as using shutterboard rather than plaster on outerwalls, using strand sheets rather than chicken wire and plaster on the inner walls. Some houses are one story, some are two; some have roofs made of gangnail roof trusses, some with ridge-beam and rafters, and some with A-frame systems for loft utilisation. **Eco-beam** designs also meet building code requirements and the company holds multiple design patents⁴⁶.

There are some challenges associated with using sand-bag technology. Low-income use of this technique generally utilises local, unskilled labour, which, if trained improperly can result in a failed housing attempt. If the foundation is not level or the sandbags are not placed properly, the house can be structurally unsound and can, essentially, fall over⁴¹. Another drawback is that, occasionally, plaster peels away from inner walls that were constructed with chicken wire frame and plaster.

The **Edward St. Housing Development Project in Grassy Park**, which is being spearheaded by the Southern Region New Housing department head, is currently in the preplanning stage. However, this project will include many of the sustainable aspects mentioned

above, such as reuse of movie set timber, glass cut offs, and demolition bricks. In addition to these, the project hopes to capture biogases from human waste for use to power street lights⁴⁷.

We discovered that utilising pilot programmes, like the Stone House Project, to gain HD support and policy flexibility is one way to overcome the challenge in implementing recycled and local material use. Creating a database of previously used material suppliers, along with contact information, is considered beneficial by Darryl Kruger, project manager of the Stone House Project, to help project managers locate and collect waste materials and we feel that more housing officials should follow his example. Explaining alternative material benefits, as well as referring to the materials as “recycled” rather than “waste,” would help improve community perception and buy-in. From speaking with a number of project managers and professionals, we also discerned that employing locals and training them for a specific recycling function, essentially making them specialists, would increase time efficiency of projects.

4.3.4 Passive Solar Energy

Solar panels or other high-tech devices are not necessary to use solar energy for controlling inside temperatures. Passive solar energy only requires a proper orientation of the building itself and modifications in size, use and placement of key features. One of the most important features for low-income housing is that the houses are properly oriented with respect to the sun’s location throughout the year. Another essential aspect is that adequate thermal mass is included to store solar heat during the day and through the night, as well as insulating the house structure well to retain this heat. Additionally, window sizing and location are critical for appropriate energy retention⁴⁸.

Passive solar energy, unlike many other green technologies, is used by the HD. However, it is used minimally because awareness of the technology is low amongst project managers. Also, engineers design town layout with respect to the infrastructure rather than location of the sun. In places that have incorporated passive solar energy into housing development design, beneficiaries do not always take full advantage of solar benefits due to misunderstanding of the technology.

The **Witsand iEEeco Village**, outside of Atlantis, has successfully utilised passive energy, by designing the houses with large, north facing windows and smaller ones in the back. They also have overhangs at angles that allow light in the front windows during the winter, and

keep direct light from getting inside in the summer due to the angle of the sun (Figure 4.7). Residents do not carpet their floors, allowing the concrete floor to soak up the heat from the day and continue emitting it during the night. There is also insulation and ventilation layers in the roof to allow heat to remain in the house in the winter and escape during the summer³⁸.



Figure 4.7: Witsand iEEeco Houses Shaded by Roof Overhang in Summer

There were initially some challenges with the houses because they came with instructions. Communicating how to best use the house proved to be somewhat difficult. The community leadership held workshops to explain that shades need to be opened in the morning to allow the sun in, and that carpeting could not be put down. After speaking with some inhabitants of these houses, we discovered that, when used correctly, the houses truly stayed warm in the winter and cool in the summer. Also, the traditional PHP housing used different ceiling insulation which proved to be more heat efficient than the contract-built ones. However; owners of contract built houses were still satisfied¹⁹.

In order to facilitate use of passive solar energy, project managers must be made aware of its existence and simplicity. This can be accomplished through published documents and training. We realise that there are some difficulties in implementing passive solar energy housing on sites with infrastructure that was not laid-out with regard to maximum solar use, therefore we

suggest that project managers and town planners strike a balance between modifying infrastructure and orientating the top structure. Educating beneficiaries for optimal solar energy use could be accomplished through flyers, visuals, and workshops. Challenges to passive solar energy use can be easily overcome, and would allow this very simple, sustainable technology to benefit the city and the community.

4.3.5 Other Sustainable Tools

In addition to the previously mentioned sustainable tools, other methods of sustainability are available. These include solar geysers, which heat water using solar power⁸. Also wind turbines and solar panels can be used as electric energy sources. Growing grass and gardens around the house to prevent soil erosion from the house foundation is another beneficial tool. There are numerous methods for a community to become sustainable, and those introduced in this section are simply a few that seemed feasible in low income housing.

4.4 Mixed Use Development

The idea behind mixed-use development is utilising one community for multiple purposes. One example is a three story building where the first floor is a shop, the second is where the shop owners live, and the third is a crèche for children. Another example of mixed-use is a neighbourhood with homes, a community centre, a crèche, and a trading centre. As long as an area or community combines economic opportunities, habitation, and social activities, it is mixed-use (Figure 4.8). Mixed-use development also promotes self sufficiency in communities since everything necessary; homes, jobs, and activities, are all in one place⁴⁹.



Figure 4.8: Building Incorporating both Business and Home in One Building

This form of development is significantly underutilised by the HD in low-income housing developments. Well located land, near employment and social opportunities, is often difficult to find and unaffordable. Land is mainly allocated for residential housing rather social and economic purposes. There is also little collaboration between the departments responsible for economic, housing, and community development opportunities. Despite these challenges, mixed-use has been implemented in certain places.

Joe Slovo Park is an example of a mixed-use, low income housing development in Cape Town. It is bordered by industrial and commercial zones, and is close to a higher socioeconomic residential area. Close proximity to employment opportunities has allowed many of the residents to earn a steady income. This optimal placement of a low income community was part of the plan when the site was being developed because planners and government officials recognised the need to rectify economic injustices in the post apartheid era¹.

Another example where mixed-use development has been implemented is **Sakhasonke Village** in Port Elizabeth. Higher density housing was built on a small, well located parcel of land with the idea that it would bring beneficiaries closer to employment opportunities and community facilities. A community hall is currently doubling as a crèche during the day, and as a

space for two different churches on the weekends. In addition, the development intends to include facilities for craft and trading facilities. The buildings are located around a central open space for general community use and spaces next to homes provide the opportunity to create food and herb gardens⁵⁰. These positive social and economic aspects all justify the value of mixed-use development.

It would be beneficial to incorporate mixed-use development into low-income housing for a number of reasons. There are numerous informal business owners in the informal settlements and townships¹; therefore, business space should be included when creating a new housing development to give these entrepreneurs a place to work. This would encourage job creation because there would be space for businesses and shops and consequently more opportunities for employment. It would decrease the need for transportation, because the living and working space would be the same or in close proximity. Mixed-use development promotes sustainability, by supporting economic success, social equity, and environmental health⁴⁹.

After reviewing our findings, we suggest that the HD creates policies that incorporate social and economic opportunities in housing projects as one means of addressing the lack of mixed-use development in low-income communities. It should also allocate land for mixed-use development without decreasing the number of housing opportunities, which we found can be done with two story buildings that incorporate both businesses and homes. We also realised, through discussions with project managers, department heads, and non-governmental professionals, that making use of interdepartmental collaboration would be the single-most effective means of incorporating economic, social, and residential opportunities in housing developments, and therefore strongly recommend its implementation.

4.5 Community Facilities

Community facilities are public, non-residential buildings, which include multi purpose halls, health centres, and crèches, among other functions. They serve a variety of roles from community unification to drug and crime reduction. Having a space for everyone to share and use can also promote integration, bonding, and pride in the community.

4.5.1 The Role of Community Facilities

One essential type of community facility is a community centre, which can be a large, multi-purpose hall or a small building with a few meeting rooms. It can provide the community with the necessary space to be active in local politics and governance. Town meetings, elections, and executive board meetings of community organisations are examples of activities that would be held in the community centre such as the one found in Belhar. Elections of the **Belhar-Pentech Project Steering Committee**, which were attended by the team, were held in a multi purpose community hall.

It can also serve the role of designated information centre; a gathering place where people can share their ideas both in person or through flyers, pamphlets, posters and other forms of communication. One way to utilise a community centre as an information centre is during the housing process. The **Edward St. Project** in Grassy Park includes plans to create a prototype house first and then use it as both a small community centre and information centre. Created before the bulk of new housing construction, it will keep beneficiaries informed about the project. Relevant dates and times of meetings, as well as updates on project progress, are some types of information that might be posted at the centre⁴⁵.

Other roles that community facilities can play provide the community with social programmes that build healthy social and economic networks⁴¹. The **Indlovu Centre** provides a number of programmes for youth and children, such as the crèche programmes and youth choirs, dance teams, indoor sports and outings. The youth centre and crèche provide a healthy and nurturing space to spend time and serve as a safe haven. Children are educated to be productive members of society by instilling values of sustainable development, caring, self help, and pride in their community, through activities like creating Christmas lights from recycled plastics and contributing to the construction of a new community centre. Programmes generally support positive changes in the community as a whole, such as the contest for the ‘Best Garden,’ which included a R500 prize and promoted residents of Monwabisi Park to take initiative in bettering their physical environment (Figure 4.9). Other initiatives include parties and social gatherings, which bring the people closer together in partnership towards the goal of improving their community and foster hope⁴¹.



Figure 4.9: Community Garden Entered into the Monwabisi Park Contest

Community facility programmes also have the opportunity to educate the community about delicate topics ranging from social issues such as domestic abuse, to healthcare such as STD risks. It is often necessary for facilities to carry out this form of education due to the sensitivity of social and health issues and because the community generally lacks accessibility to the information⁵¹. Community centres can serve as a way to spread information in impoverished areas. The **Indlovu Centre** utilises its community space for this purpose by decorating the walls of the health clinic and youth centre with a variety of disease and violence prevention posters. Free health care and daily meals are two programmes also implemented at the **Indlovu Centre**. They have proven extremely valuable to the community; residents of other communities travel to the health clinic for care they desperately need and can find nowhere else, and many people depend on the soup kitchen for their only meal of the day⁴¹.

Other community facilities are sports facilities and public open spaces with benches and playgrounds. Healthy and safe exercise, productive fun, and skills training can be gained from sports facilities. Sports psychology is based on the idea that sports create community, healthy relationships and bonding, as well as aiding to develop social and leadership skills. If sports facilities are available and the proper education, tools, and incentives are given to community

leaders, then sports teams and programmes can be developed. Sports teams provide an atmosphere that fosters teamwork, discipline, and goal setting⁵². Also, educational facilities and places of worship are invaluable to new housing developments and their need has been substantially recognised.

4.5.2 Current Efforts, Challenges, and Suggestions

Ideally every type of facility would be present in housing developments; however, this is not always the case. Currently, the City of Cape Town recognises the need for community facilities; however, the construction of community facilities is not part of the new housing development process. Planning for community spaces is done with minimal, if any, collaboration between the New Housing Department and Community Development, the branch of administration responsible for developing community spaces. The basic responsibility of New Housing is to construct houses, therefore practices are not currently in place that support the creation of community facilities. Community facilities currently present in the project sites we investigated were identified (Table 4.2) using the New Settlements: Region A map from March 2007.

Project Site:	Witsand	Belhar Pentech	Du Noon
Multi-Purpose Halls	1	2	2
Health Facilities	1	1	1
Libraries			
Places of Worship		14	1
Crèches	1	1	
Schools		3	1
Sports Facilities		3	
Youth Centres			
Trading Centre	1		
Soup Kitchens			
Gardens/Playgrounds			

Table 4.2: Community Facilities Present

It is apparent that efforts on behalf of the City of Cape Town to provide adequate community facilities when creating new housing opportunities have been less than satisfactory. Policy, politics, and general atmosphere within the City of Cape Town have generated a specific focus on creating residential areas; however, when housing opportunities are maximised ineffectively without including community centres, this can create dysfunctional communities.

Du Noon is an example of a housing project where an adequate number of community centres and other community facilities were never established. Land was allocated for community centres during housing development planning; however, time lags in the construction of the community centres resulted in invasion. Only a few community facilities, including a school, health facility and place of worship, are available to serve the needs of roughly 9,000 residents. An informal interview with Elizabeth Gula, a Community Development Workers (CDW) in **Du Noon** (CDWs are leaders in the community, as well as government officers, who learn of community issues, report them to appropriate parties, and help facilitate problem resolution), highlighted some of many social problems that have stemmed from the severely limited number of facilities, ranging from domestic violence to drug addiction. To address the social problems of **Du Noon**, the city has opened a CDW walk-in centre directly within the community that aims to provide people with information and access to service delivery mechanisms.

The creation of community facilities is the responsibility of a branch outside of the HD, the Community Development Department. New Housing has no incentive to ensure that community facilities are in place when a project is concluded. Community facility construction generally does not occur until housing construction is completed and the beneficiaries are occupying the homes, at which time the ward councillor is able to file a report to Province requesting community facilities. Unfortunately, it may take six months or longer to receive a response from the government¹⁹. Consequently, communities must inhabit their homes for a period of time before community facilities are provided. By the time facilities are constructed, communities may have already become dysfunctional and it may be too late to create healthy relationships¹². In **Du Noon**, the possibility of additional community facilities being built now is slim due to lack of available land¹. This situation emphasizes the problems with waiting until after housing development to include additional facilities.

When new housing beneficiaries are relocated their social networks are often destroyed. The beginning of their residence in the new housing development would be the ideal time to establish new social and economic networks, as well as to establish leadership roles. Community facilities would aid in this process. Therefore it is essential that community facilities be implemented correctly if their full benefits are to be gained. The **Indlovu Centre** has begun the top structure upgrading of the informal settlement in Monwabisi Park; however, rather than starting with houses, Di Womersley, who is heading the project, has chosen to first construct the community facilities, including a soup kitchen, youth centre, crèche, health clinic, home prototype (currently serving as a guest house), and plans to build a multi purpose community centre. These facilities have created many positive changes in the community⁴¹.

This practice ensures that the facilities are in place when residents of new housing first occupy their homes. We suggest interdepartmental collaboration and synchronized construction of housing and community facilities as methods for New Housing to replicate this process. At least one multi purpose hall should be in place for every housing development before allocation and release of the houses. Planning for this hall would not require any beneficiary input as it would be constructed to be versatile and adaptable to the immediate and future needs of the community. As soon as beneficiaries to a new housing development are named, they should be surveyed to identify other types of community facilities needed. The number of community facilities must be sufficient and locations in the housing layout must promote ease of accessibility of the facilities. For example, rows of houses are not considered organic and do not promote healthy social networking⁴¹. We suggest using a village plan that includes circular layouts with community centres in the middle of the development would create a more organic way of living.

Community participation is a tool for successfully implementing community facilities. Participation from the community allows for the individuals to state their needs in a facility, including size, location, and amenities. In order to ensure maximal use of the facility, it is critical that it meets the majority of the community's needs⁴¹. One such need would be job creation and career training during and after building construction⁵³. Different types of community facilities require a wide range of jobs. For example, the creation of a crèche will provide job opportunities for many individuals as child care providers, whereas the opening of a church will employ the

local pastor. Therefore, the process by which community facilities are created contributes greatly to its success.

Leadership support, from street committee members, South African National Civic Organisation (SANCO) members, and Ward Councillors, is important to ensure that the community facilities are used, maintained properly, and not destroyed through vandalism or theft. Leaders in the community are important to identify and solicit support from immediately, so that they can help get buy-in from the community²¹. The facility will have an increased chance of success if community members are welcoming, happy, and sure of its value to the community. We suggest immediately putting great efforts into gaining support from leaders, which would also ensure proper management of facilities, as they are in the best position to protect and manage these public spaces. They know the members of the community and have authority to regulate them⁴¹. They also have the capacity to make appropriate contacts with the government when maintenance is needed¹.

4.6 Collaboration

Collaboration between individuals working towards a common goal increases success⁵⁴. According to the City of Cape Town Informal Settlements Master Plan, the city's goal is creating a "dignified safe healthy living environment for all citizens in Cape Town." In order to achieve this vision, the Northern Region of New Housing cannot work in isolation, with a narrow focus on only one goal, housing structure development. They must work with other organisations, including other regions of New Housing, other departments, the provincial government, new employees and NGOs. Throughout our project we indirectly created opportunities for communication and sparked progress towards collaboration due to features of our methodology including interviews at which our sponsor was present.

Collaboration involves communication and cooperation. When synergy is reached, the collective effort becomes more effective. Communication of information, ideas, experiences, successes, failures, and lessons learned increases the knowledge of all parties, and may result in the development of more innovative ideas and solutions⁵⁴. Collaboration also provides the support and necessary tools for innovative ideas and projects to be implemented, since the capabilities and jurisdiction of a group is greater than the individual⁴⁷.

The resources available to a collaborating group are greater than those available to separate entities which increases productivity since the resources available to one organisation may be beneficial to another. Sharing between organisations may also decrease the duplication of mistake so that processes can be more successfully implemented. These benefits can be achieved through the types of collaboration in this section which discusses issues with the collaboration in each area that could be improved by New Housing as well as suggested actions they can take to rectify the situation.

4.6.1 Interregional Collaboration

Collaboration should occur between regions in the same department (Figure 4.10) because they work on similar projects and the sharing of knowledge would be beneficial. Efforts to share ideas have been minimal since no tools, guidelines or encouragement of collaboration and communication exist²¹. Communication usually only occurs with individual initiative⁴⁷. During our work, we initiated collaboration between the Heads of New Housing in the Northern and Southern Region. This allowed them to exchange ideas about new innovative projects they had previously implemented or envisioned, such as the **Edward Street Project**. Both had insight to share with the other which provoked further thought. This meeting provides evidence supporting the ease and value interregional collaboration.

Interregional collaboration is necessary for new employee training since in the HD; very little training exists due to time constraints and demands. Employees are sometimes introduced to high positions such as the Head of New Housing, without much knowledge of the position. We suggest that the heads of other regions give guidance and insight to the new member, as a form of effective training. They could also share any lessons they have learned so that new employees could be more prepared for a project setting¹.

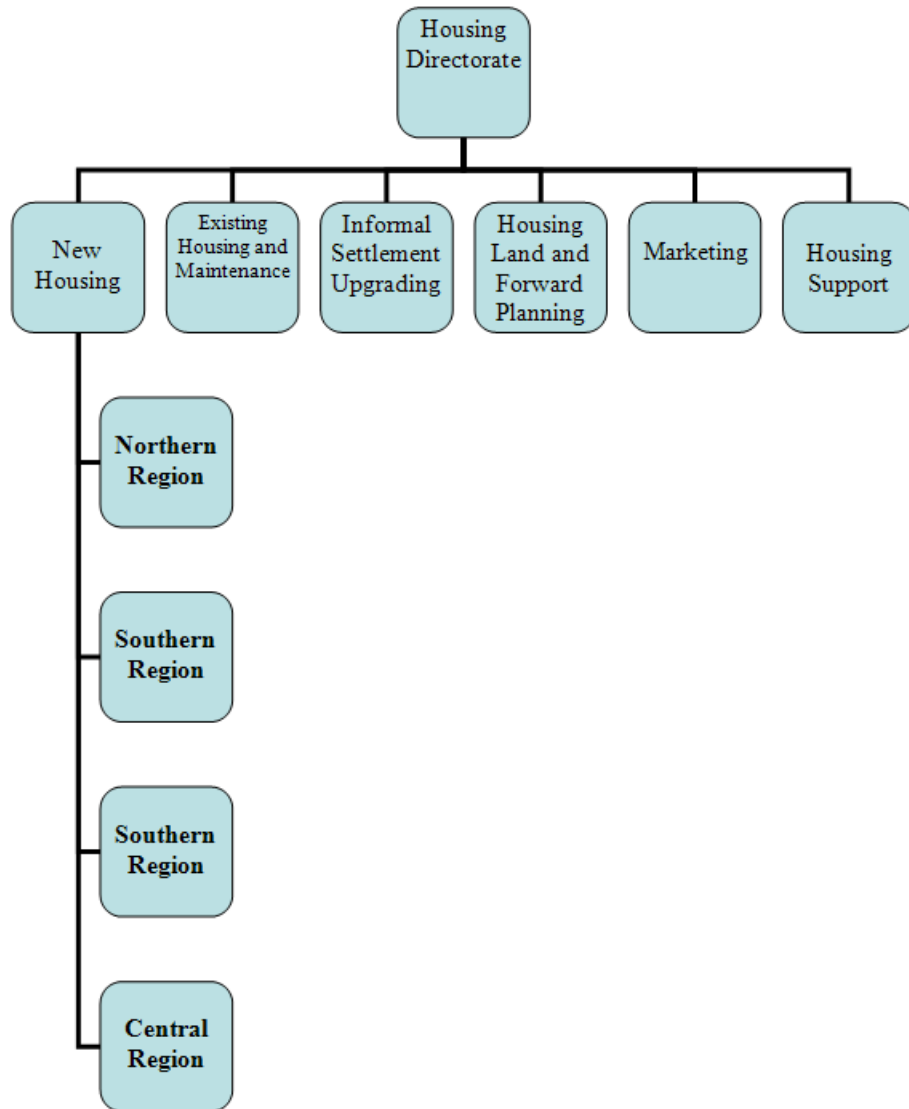


Figure 4.10: Regions of the New Housing Department

One way we suggest to foster interregional collaboration is through periodic round table Regional Head meetings. Currently the Manager of New Housing holds a meeting with the regional heads, once every two weeks, to discuss project progress and technicalities¹. However, these meetings generally do not allow for the sharing of lessons learned amongst the Regional Heads. Round table meetings between the Regional Heads would not include the Manager, so that sharing could be facilitated without inhibitions. The purpose of these meetings would be sharing lessons learned in housing best practice, brainstorming solutions to housing process obstacles, and relating innovative project descriptions. Details such as scheduling and frequency

would need to be considered, in order for these meetings to be effective. Regularizing these meetings could be achieved with encouragement from upper management and politicians. This could be achieved through support, the supply of needed tools, and incentives.

4.6.2 Interdepartmental Collaboration

Interdepartmental collaboration is necessary to create efficiency and effectiveness in an organisation. Many governmental departments service the same individuals in different ways; therefore, their experiences and efforts are relevant to one another, and synergy between the departments would increase problem solving capacities amongst them. South African government policy acknowledges the need for interdepartmental cooperation and collaboration, in *A New Housing Policy and Strategy for South Africa*⁵⁵. However, this type of collaboration is difficult to implement.

Divisions between governmental departments complicate the process of developing healthy communities for all South Africans. Several departments in the Housing Directorate are involved in this process as well as other branches of the municipality, including Community Development and Service Integration. One unit containing all resources dedicated to developing one product is the ideal form of collaboration. It would decrease time and resource waste between departments, and therefore may be the most effective mechanism of quickly achieving the goal. However, re-organisation of the branches and departments involved in developing healthy communities into one department that accomplished all the necessary steps to reaching the overall goal, would require tremendous effort, money, and time. Also, re-organisation is not practical or effective when many different processes, each requiring different departments, are required in order to achieve the overall goal⁵⁴.

Departments and branches are therefore essential in the City of Cape Town; however, increased collaboration between departments can lead to the benefits of unity without the costs and time of re-organisation. Partnership is even more important when certain processes, necessary for one project, must be carried out by several different departments. When one department is dependent on the other's progress in order to fulfil their own goal, the projects should not work in isolation, and communication and collaboration should be implemented in order to achieve quicker results⁵⁴.

New housing projects inherently require interaction with other departments such as those responsible for infrastructure¹. For example, when a housing project takes place in an area that was originally occupied by informal dwellings such as in the **Witsand** project, the infrastructure development and consequently the erven planning is conducted by the Informal Settlement Upgrading department. Although they provide the upgrading of amenities in informal settlements, the upgrading of the top structure to formal housing is provided by the New Housing department. Therefore, in-situ informal settlement upgrading is the responsibility of both of these departments in the Housing Directorate (Figure 4.11).

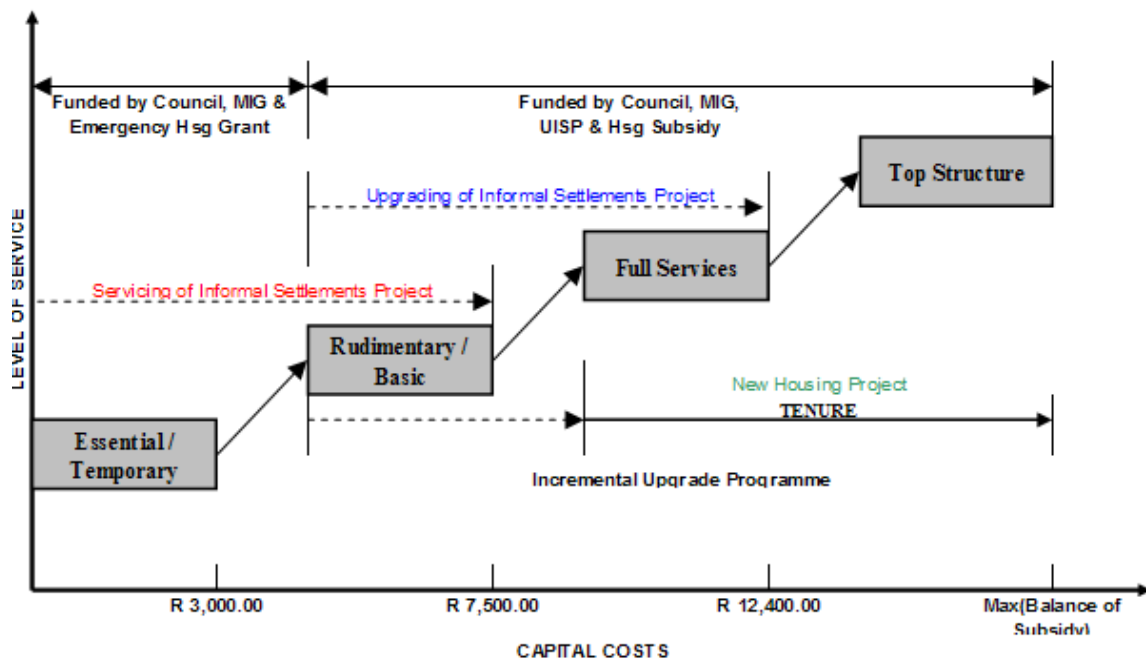


Figure 4.11: Relationship between Informal Settlement Upgrading and New Housing (IDP)

There is a lack of collaboration between the two departments (Figure 4.12) during this process. Communication is minimal and therefore the staging of the two phases of upgrading are not well matched and budgeting can be an issue, since New Housing sometimes discovers the project too late. New Housing does not usually coordinate their efforts with Informal Settlement Upgrading effectively enough, and often times they have no input into the layout and planning of the infrastructure. New Housing often begins a project in an informal settlement where the infrastructure is already provided but may not be in the layout needed. For example, this can become an issue when creating passive solar energy homes, as they need to face a specific

direction, but layout does not always allow for this⁸.

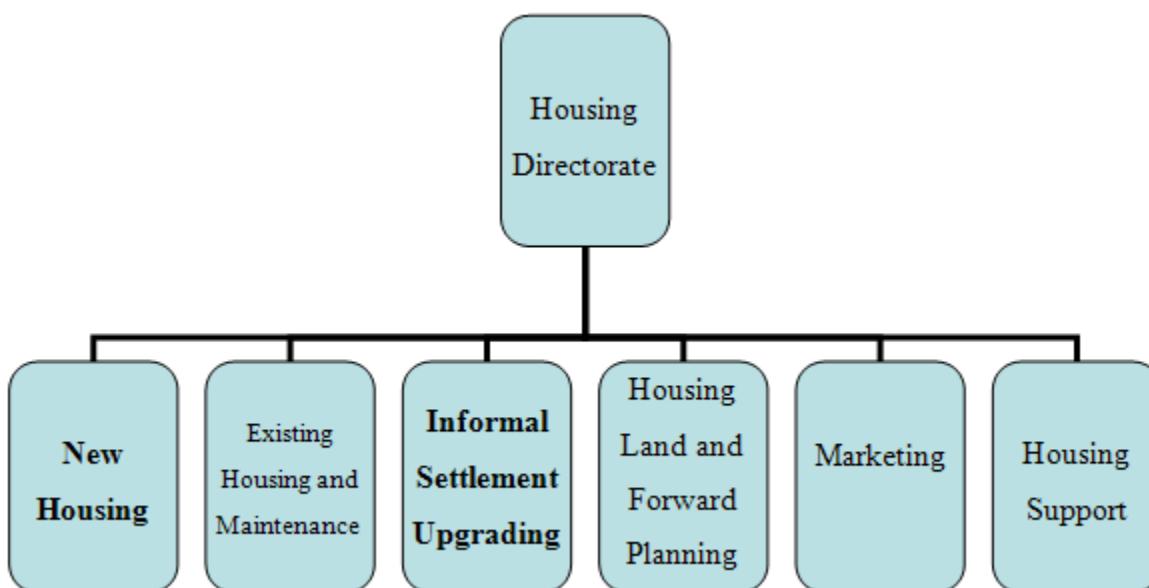


Figure 4.12: Housing Directorate Departments

Interdepartmental collaboration would strengthen the best practice of mixed-use development. This practice requires, by default, an interaction between New Housing and other departments, since facilities other than housing structures are being created. Creating business spaces would best be achieved through a close partnership, during the housing project, with the appropriate department; Economic Development. In the same way community facility implementation would benefit from interdepartmental collaboration. As previously discussed in Community Facilities, New Housing should work with Community Development to best implement community facilities in a timely and efficient manner.

We suggest focus groups, involving all departments relevant to a specific project would increase communication and collaboration. For example, Informal Settlement Upgrading Projects should create focus groups with members from departments including New Housing. New Housing would become informed and updated on the infrastructure and services implementation as the project progressed, and could plan their budget accordingly and incorporate the project into their plans. They would also be able to contribute suggestions, such as how the infrastructure layout could be adjusted to better function with the ideal top structures which will be implemented. Focus groups during a New Housing Project should include members of the Community Development and in order to facilitate the simultaneous construction

of housing and community facilities, or at the very least superior coordination, resulting in less lag time between housing and community facility construction.

4.6.3 Other forms of Collaboration

A variety of partnership possibilities exist between New Housing and other organisations. Those that the team investigated and identified as beneficial were provincial government, new employees, and NGOs. Provincial, a broader sphere of the South African government, provides funding to the City of Cape Town for housing projects¹⁸. Therefore, we suggest that New Housing increase interactions and communication with provincial. Provincial's requirements for reports or project proposals sometimes become a time constraint which can inhibit project managers from completely fulfilling their housing mission. Therefore, New Housing must communicate these issues when they arise and create opportunities to make suggestions.

Employee training is essential for generating increased efficiency within the HD. New employees are often present in the HD and if not properly and quickly trained, they may be inefficient. Also, most times, they are not in a position to gain the knowledge of lessons learned by current and previous employees. Although it initially creates additional work, adequate training of employees, including the sharing of best practices, decreases effort expenditure in the long-term. New employee training may include a video, report, pamphlet, or booklet, like the KMS we have created, to communicate lessons learned in housing development.

Research work, surveys, funding, valuable suggestions and observations, are some of the valuable results that may come from collaboration with NGOs. Seminars with NGOs and other organisations can be effective methods of promoting. During these seminars, presentations of innovative ideas can be made. Discussions may ensue, and other forms of communication and interaction, such as focus groups, may occur. The team attended the Friends of DAG seminar, in which one HD official spoke, resulting in further discussions. NGOs should not be alone in sponsoring these valuable forms of communication. Overall, we suggest that the HD and the City of Cape Town consider implementing programmes and tools to promote an increase in collaboration and variety of forms of communication to better the housing development process and build healthy communities.

5. Conclusions

In order to address the social problems that exist in low-income communities, we identified five best practices that encourage healthy community building and we suggested ways to successfully implement them. These five best practices are community participation, green technologies, mixed-use development, community facilities, and collaboration. Although there are issues that may impede the proper implementation of these practices and suggestions, such as community resistance, the lack of land and funding available to the city, we feel that progress **can** be made towards reaching the best practices outlined in this report.

Throughout our time in Cape Town, as we researched these best practices, our fieldwork within communities and the HD left us with two main impressions: that the obstacles are overwhelming and yet the determination, on behalf of those responsible for overcoming the obstacles, is still greater. Unfortunately, as determined and hard working as these administrators are, their efforts will never truly solve the economic injustice and housing problems that plague Cape Town unless ways of successfully implementing these best practices are researched, discovered, and used. In order to help the HD, we hoped to increase its awareness and promote innovative solutions by providing it with a better understanding of the steps that others have made towards building healthy communities.

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Appendix

Annotated Bibliography

Abbott, J. (2002). A method-based planning framework for informal settlement upgrading. *Habitat International*, 26(3), 317.

This article would be beneficial for our background section, as it contains information on the objectives of upgrading, as well as a discussion on the best planning method. The article takes into account the community, the city and the individual families when discussing how to plan for upgrading. The article is by a man from the University of Cape Town, and he sites much of his other work in the article, these references as well as the others he uses may hold more information related to our project.

Cited by: Maggie Becker

Anderson, Larz T. (2000). Planning the Built Future. Chicago. *American Planning Association*. v-x.

This book is highly relevant in understanding what goes into planning housing development. In this case, the table of contents was used in order to get a general idea of the different aspects of urban planning.

Cited by: Shivahn Fitzell

Auditor General. (2006). *Performance audit report on the approval and allocation of housing subsidies at the Western Cape Department of Housing*.

This audit highlights many of the standards used to decide which citizens get housing subsidies. The audit's main focus is on the problems found with the implementation of these standards and includes recommendations by the auditor general to fix these problems. This document will be a helpful example of how to identify whether the Cape Town housing directorate is following the policies which the auditor general feels necessary. It also serves as an example of the types of lessons the team might encounter.

Cited by: Maggie Becker

Beall, Jo; Crankshaw, Owen; & Susan Parnell. Victims, Villains and Fixers: The Urban Environment and Johannesburg's Poor. [Electronic version]. *Journal of South African Studies. Special Issue: African Environments: Past and Present*, 26(4), 833-855.

This article is useful in gaining an understanding of the problems faced by poor communities in South Africa, much like the informal housing settlements we are researching, and the obstacles to sustainable development in these communities. Poor people are viewed as victims, through suffering unfair and harsh conditions. At other times, such as when polluting, illegally gaining access to resources, or boycotting rents and service charges, the poor are viewed as villains. And still other times, as is mostly the case now, they are viewed as fixers, who are participating in community based responses to the myriad of problems faced by these urban poor. Many of these problems are examined closely in this article, which focuses on the relationship between Johannesburg's poor and the urban environment, more specifically, three key urban services: water supply, sanitation, and electricity. The author is interested in highlighting the injustices faced by the poor and the inequality between the poor and wealthy in regard to basic housing needs. The article contains many interviews (i.e.: an interview with Caroline Stephens revealed, "the urban poor often have least access to piped water and are forced to pay more than the wealthy for poor quality and limited quantities of water from vendors.") The author concludes by linking together environmental management and the 'green agenda,' with social justice and the 'brown agenda.'

Cited by: Christy Royer

Berry, M. G.; Robertson, B. L.; & E. E. Campbell. Impacts of Informal Settlements on South-Eastern Cape Coastal Vegetation (South Africa). [Electronic version]. *Global Ecology and Biogeography Letters*, 4(5), 129-139.

This article is important to incorporating environmentally aware ideas and theories into our project. The article focuses on the effects of informal settlements on the environment, more specifically the natural vegetation. The natural vegetation was sampled by means of the Braun-Blanquet and point-centered quarter methods. Specific harmful human actions and their effects are studied in the article (i.e.: collection of firewood, footpaths, collection of medicinal bark, solid waste pollution, and soil erosion). It will be important to avoid sustainable development

plans that further the negative effects of these actions.

Cited by: Christy Royer

Birkland, Thomas (2005). *An Introduction to the Policy Process*.

A discussion of general aspects of policy and problems that may arise with organisations that rely on policy is included in this article. Birkland, also explains policy specifically as it relates to government.

Cited by: Christy Royer

Botes, L., & Dingie van Rensburg. (2000). Community participation in development: Nine plagues and twelve commandments. *Community Development Journal*, 35, 41.

This article may be useful in our background section featuring ideas such as community participation. The article highlights 9 problems faced with community participation in development as well as 12 ways to use the participation correctly. This may help us in designing our communication lessons if they are aimed towards the community because we will be able to understand how to successfully get the community involved. The ideas here may also help with community involvement in case studies.

Cited by: Maggie Becker

Campbell, S. (1996). Green cities, growing cities, just cities? urban planning and the contradictions of sustainable development. *APA Journal, Summer*, 296.

This is a description of the philosophy sustainable development which is easy to understand. This includes a description of the three aspects of sustainable development and the conflicts faced by a planner trying to reach the ideal between them. This is important for the background section on sustainable development.

Cited by: Maggie Becker

City of Cape Town (2006). *Housing Consumer Education*.

This is a workbook that is handed out to the beneficiaries of a housing project to help them understand the housing process, as well as the responsibilities that come with owning a home.

This is beneficial to our project because Housing Consumer Education is a form of community participation.

Cited by: Maggie Becker

City of Cape Town (2006). *Housing Consumer Education Staff Information Booklet*.

This document is aimed at helping Housing Directorate Staff understand the HCE document. It has most of the same information as the HCE.

Cited by: Maggie Becker

City of Cape Town. (2007). *Housing code part 2: Housing in South Africa: The policy context*.

This report includes the overviews of two important reports for the housing directorate of South Africa. These are the Housing White Paper and the Comprehensive Plan for the Development of Sustainable Human Settlements. The first is the document from which most of the housing policies come and is a relevant guide for housing policy. The second is a paper for revised strategy which allows for new policy. Both of these papers will be very important for the methodology, when broad investigations as well as case studies are performed.

Cited by: Maggie Becker

City of Cape Town. (2006). *Housing Project Steering Committees*.

This is extremely relevant to our project in order to understand the full process of creating housing settlements in Cape Town. This report includes a description of the Project Steering Committees, the committees that oversee the housing development projects, from planning stage to delivery stage, and their duties. The author's interest is to improve the structure and operations of the Project Steering Committees and to address accountability, and transparency within projects, thereby supporting unity amongst all relevant parties. The author developed guidelines to increase performance levels of Project Steering Committees, outlined the process by which projects are proposed and implemented, and clarified terminology for better communication between relevant parties.

Cited by: Maggie Becker

City of Cape Town (2007). *People's Housing Process*.

This is a policy for the People's Housing Process. It explains every step of the process, as well as the role players involved.. It was valuable as the People's Housing Process was identified as a best practice for community participation.

Cited by: Maggie Becker

City of Cape Town: Housing Directorate. (2007). *Quotation specification: **Belhar-Pentech** housing project ERF. 28981 – 300 units – beneficiary subsidy administration.*

This document is highly relevant as it is one of the policies we will need to collect. The author's purpose is to stipulate the responsibilities of the Beneficiary Subsidy Administration. The methodology for this document is identifying potential subsidy candidates, helping beneficiaries apply for subsidies and explain documentation, make sure people are filling out correct legal documents to protect themselves and the government, taking care of finished applications and relevant paperwork, going through the application approval process, and then doing a follow-up. There is also an alternative mentioned for those not approved for subsidies to receive low-income housing. The methodology continues with the completion of an “erf” for each beneficiary, reviewing the process for handing out housing, and ends with a stress on the importance of public relations and communication with the community involved.

Cited By: Shivahn Fitzell

City of Cape Town: Housing Directorate. (2007). *Quotation specification: **Belhar-Pentech** housing project ERF. 28981 – 300 units – community facilitation*

This document is highly relevant because it is a policy we will need to include. The author's purpose is to stipulate the responsibilities of the community and social facilitation group involved in this project. Methodology included establishing a committee to oversee the project, making sure the committee had equal representation and all languages of the region were translated, keeping the community informed and in agreement with plans, aiding professionals working on the project, making sure the streets were correctly named, and keeping the government informed of all project team activities.

Cited By: Shivahn Fitzell

Cook, G. P. (1986). Khayelitsha: Policy change or crisis response? [Electronic version].

Transactions of the Institute of British Geographers, 11(1), 57-66.

This would be considered historical information and contains diagrams of Khayelitsha settlement plans as it was being developed. Author's interest was in the "new" black African settlement and the policies behind it. Methodology was a case study of Khayelitsha. Conclusions are that Khayelitsha continued to support the apartheid system by(?) having black Africans live together on the outskirts of the city, and that while they would be getting facilities and 99-year leases to their property that they lacked in a squatter camp, those facilities were of a lower quality than built in previous black-resident areas and the people being most affected by the new development had no say in it's creation.

Cited by: Shivahn Fitzell

Damelio, R. (1996). *The basics of process mapping*. Portland: Productivity, Inc.

This book highlights what process maps are used for as well as how to create one. The book also explains how to create flow charts, relationship maps, and cross-functional process maps. Data collection for use in process mapping is also highlighted. This will all be helpful for the methodology.

Cited by: Maggie Becker

Department of Water Affairs and Forestry: Water Services Regulation Directorate. *Free basic services strategy*

This document has significant value because it is a policy and a process that is specific to sanitation, rather than a generic guideline for all housing development. The author's purpose is to communicate a developed strategy to implement a free basic sanitation policy. Methodology includes a vision of the project, background on the scale of the lack of sanitation, a list of target goals and who is responsible for achieving them, a description of existing policy, the strategy and plans to accomplish target goals, the public and political support factor, what the Water Services Regulation Directorate will provide, definitions of sanitation and people that would most benefit from it, the decision making process, the framework for implementation of Free Basic Sanitation, effect on the environment, the different levels of technical service, financial support and subsidies, the different options for Free Basic Sanitation, and the implementation of the policy.

Cited By: Shivahn Fitzell

Dick, B. (1998). *Structured focus groups* [On line]. 1 Oct 2007. Available at

<http://www.scu.edu.au/schools/gcm/ar/arp/focus.html>

This document outlined the purpose of a focus group as well as the key process of using one for research. This was helpful for writing the methodology and deciding what kind of interviews to use.

Cited by: Maggie Becker

Graham, Nicholas (2005). *Informal Settlement Upgrading in Cape Town: Challengers, Constraints and Contradictions within Local Government*.

This report recognises that positive shifts in policy allowing informal settlement upgrading have been made, but that many obstacles to implementation still exist. Eight factors, which are rooted in three contradictions discussed in the report, were identified as limiting informal settlement upgrading: the incompatibility of local level initiatives with national housing policy; the shortage of available land for housing; the lack of finance or inappropriate finance mechanisms for upgrading; internal bureaucratic constraints; the incomplete restructuring of the city bureaucracy; a lack of local government capacity for specific aspects of upgrading; increased political involvement in the process; and unstable community politics.

Cited by: Christy Royer

Gumede, D., & Pemba, M. (2007). *City of Cape Town: Informal Settlements MASTER PLAN 2007*.

This PowerPoint document is extremely pertinent to the Sustainable Development Lessons project. The authors' main interest is to communicate the plan of upgrading and eradicating informal settlements in Cape Town. They created a PowerPoint describing the methods of the plan, which includes developing a database, categorizing upgradeability, ID ranking score for guiding principles, prioritise rankings, ID incremental upgrade sites, ID suitable locations, develop equitable allocation model, develop implementation strategy, develop short, medium, & long term programmes. Also used diagrams, census data, and already developed guidelines for rankings. Basically, it's the umbrella project that our project falls under.

Cited by: Shivahn Fitzell

Huchzermeyer, M. (2002). Informal settlements: Production and intervention in twentieth-century Brazil and South Africa. [Electronic version]. Brazil: *The Hegemonic Process in Political and Cultural Formation*, 29(1), 83-105.

Potential historical background on informal settlements in South Africa. The author's interest is to compare Brazilian informal settlements with South African informal settlements.

Methodology included a historical comparison, and an analysis of class-identity versus racial identity. Conclusion is that informal settlements are a result of unequal growth of different populations residing in the same area due to a form of division.

Cited by: Shivahn Fitzell

Leshabane, Joseph. Department of Housing. Radio Interview Subject. Date: 01/08 (?). Station: Metro. Programme: Metro Talk. Duration: 12 mins.

This is an interview with Joseph Leshabane, the Deputy Director General responsible for implementing the Breaking New Ground policy (BNG). The interview focuses on the progress that the Department of Housing has made. The government's programme has delivered over 2.4 million houses, since 1994. Mr. Leshabane describes the conditions for housing delivery (people earning less than R3 500,00 a month) as well as the content (house, land, water, sanitation, and electricity provided by the municipality). A great area of concern seems to be the quality of the houses. The interview describes why changes were made (consumers were complaining) and what changes were made (one of which was the National Homebuilders Registration Council upscaling their inspectorate to be able to inspect every house that gets built.) Fraud and corruption are addressed. Preventing the development of informal settlements and the possibility of making "shacks" illegal is discussed. Collaboration with entities outside of the government is discussed and many such projects are mentioned. The "Inclusionary Housing" policy is introduced. It is a new policy that provides for housing integration across class and colour lines (the incorporation of different income groups in housing projects, i.e.: Cosmo City).

Cited by: Christy Royer

Kuenzi, Michelle (2005). Non-formal education and community development in Senegal. *Community Development Journal*.

This article explained the role of education in community development. It focused on a case study in Senegal. It was relevant because it discussed how community participation was effected by education, and how both of these things lead to a higher level of community development.

Cited by: Maggie Becker

Mayoral Committee. Housing Allocation Policy for the City of Cape Town. 6 October 2004. C:\Documents and Settings\wadams\Local Settings\Temporary Internet Files\OLK2A\Housing Allocation Policy approved as received from J Kuhn.doc

This document lays out a process for allocating housing. By allocating housing, it is meant, the process of identifying individuals/groups in need of housing and of deciding who receives the housing. The process used is largely composed of a “waiting list” to determine who qualifies for subsidized housing and is requesting it, followed by a “first-come-first-serve” basis (primarily) of determining who on the list actually receives housing when it is made available. The document first lays out the principals of having this allocation policy, which include equity, transparency, functionality, social cohesion, access, and integration. It goes into great detail of the rules and guiding regulations of the “Housing Registration” and “Project Application” process. Individuals applying for/receiving housing are grouped into three different categories, and these are defined along with other relevant terms, such as the “Register” (the electronic comprehensive waiting list which was in progress at the time of the documents creation). The reasons for adapting this policy are explained under the section of “Challenges” which summarizes many problems that are faced by Council during the application process. The document also describes the Mayoral Committee’s policy in regards to “Institutional Housing” (which follows its own policy of which it is the Council’s policy not to interfere with), “In Situ Upgrade Support” (target community category), and “Council Owned Rental Stock”(of which turnover is minimal and therefore the waiting list has been closed as of September, 2004 with approximately 37000 names). Possible conflicting policies have been identified (3.5 versus 3.9).

Cited by: Christy Royer

MCA Africa. (2006). *Shared learnings from the city of Cape Town's urban renewal programme*

This report has lessons learned from the progress of the Urban Renewal Programme in Khayelitsha and Mitchell Plains. It contains both problems from the past as well as examples of

positive aspects of what has been done. The report includes its approaches to these learnings which will be helpful in our methodology chapter when trying to decide how we will rate the outcomes of development in the case studies we choose. The report includes several sections closely related to what we are trying to achieve in our project, and also expresses the need for knowledge management which may help us to get an idea of what we should be doing. This report also has several city of Cape Town references that may help us in our research.

Cited by: Maggie Becker

Nel, E.; Hill, T.; & T. Binns. Development from below in the 'New' South Africa: The Case of Hertzog, Eastern Cape. [Electronic version]. *The Geographical Journal*, 163(1), 57-64.

This article is very important to the background and to gaining knowledge that will aid in the evaluation of sustainable development projects. The article, which is a case study of a successful sustainable development project in Hertzog examines in detail the practices and methods used by the community to reach their goals, though there are still obstacles to conquer). By doing so, the article is somewhat of a 'guide' to successful sustainable development plans, by providing advice such as, transparent leadership, community self-reliance, community pride, healthy competition, and using the skills of the people, etc. The author's main focus is on showing how 'bottom-up' development or community driven development, with little to no outside influence or government help, can be very successful and may be the best option for rural South African communities in need of reconstruction and development.

Cited by: Christy Royer

Nxumalo, Sibongile. Housing Consumer Education (HCE). (National)

The purpose of the HCE programme is to educate home owners and rental users on their rights and responsibilities regarding housing. This programme was initiated as a way of 'operationalising' (term used in document) the "Breaking New Ground" strategy in housing delivery. There are four provincial pilot sites (KwaZulu-Natal, Free State; Western Cape; and Gauteng) where HCE had already been implemented when this document was created. The document contains objectives, approach, partnerships, statement of intent, motivation, strategy (education training and development along with marketing and communication), generic housing consumer education (bullets of what topics it should include), specific housing consumer

education based on various subsidy schemes, and future plans. It also provides contact information (Ms Sibongile Nxumalo) and suggests that a copy of the National Housing Consumer Education Framework be obtained at any Municipal, Provincial, or National housing office involved in the HCE.

Cited by: Christy Royer

Oldfield, Sophie (2003). *Urban networks, community organising and race: and analysis of racial integration in a desegregated South African Neighbourhood.*

This report discusses the living conditions and history of residents of Delft South. The article focuses on the racial integration promoted by relocation of African and coloured families into mixed race neighbourhoods. The reliance of communities on economic and social networks and the implications this has for enhancing segregation are investigated in this report. Delft South is analyzed as an example of a racially desegregated low income neighbourhood. This article has implications for low cost housing and specifically for the fate of new housing residents in regard to social networks. The article is also very relevant to the idea of increasing racial integration in South African communities.

Cited by: Christine Royer

Robins, S. (2002). Planning 'suburban bliss' in **Joe Slovo Park**, Cape Town. *Africa: Journal of the International African Institute*, 72(4), 511-548.

This article is slightly relevant to the background. The author's main focus is on the problems with the development known as **Joe Slovo Park**. He compared what was supposed to be done with what actually took place and used examples of people involved to back up his points. It was concluded that the ideas of informal settlements must be reconsidered and changes must be made to the methods being used in development.

Cited by: Maggie Becker

Rogerson, C. The Economic and Social Geography of South Africa: Progress Beyond Apartheid. [Electronic version]. *Tijdschrift voor Economische en Sociale Geografie*, 91(4)

Relevance of this article is strictly limited to its extensive bibliography, not the article itself.

Cited by: Shivahn Fitzell

Shelton, B. (2007). *Report back 06-08-2007*

This is a personal communication describing the contents of the workshop on proposed new housing code. The email has a summary of the *Presentation to the Officials of Provincial Housing Departments and Municipalities* contents which has helpful information about the new changes the housing directorate would like to make in policy by late 2007. Along with the presentation this document may help in the process of reviewing policies for the housing directorate.

Cited by: Maggie Becker

Swilling, M. (2006). Sustainability and infrastructure planning in South Africa: A Cape Town case study. *Environment and Urbanization* 18(1), 31 Aug 2007.

This article is important to the background section, for either/both the urban planning section and the sustainable development section. The author focuses on the problems in development faced by Cape Town now and previously as well as ways sustainable development could fix the problems. The method included lots of helpful data tables and charts used to analyze the situation now. It was concluded that there are 10 ways to reach sustainable development, and these are listed.

Cited by: Maggie Becker

Swilling, M., and E. Annecke (2006). Building sustainable neighborhood in South Africa: Learning from the Lynedoch case. *Environment and Urbanization*, 18(2), 8/30/07.

This source is essential, since this neighbourhood can possibly be used as one of the case studies. The author's main interest was describing how sustainability was successfully used in the neighbourhood of Lynedoch. The method used was to analyze and compare the Lynedoch case with other attempts at building neighbourhoods, and to find the ways in which it was helpful. It was concluded that the Lynedoch case is a trigger for other developmental areas. The conclusions also pointed out a lot of the ways that Lynedoch was successful.

Cited by: Maggie Becker

South Africa: Presentation to the Officials of Provincial Housing Departments and

Municipalities: Policy and guidelines for sustainable housing development (new national housing code 2007)

This document is highly relevant because it is a policy on sustainable development, which is exactly what we are looking for. The author's purpose is to communicate the new, revised policies and guidelines for sustainable housing development. Methodology begins with an outline of the presentation. It continues with the purpose, the different legal requirements, reason for new 'national' code, objectives, process they used to discover standardization method, the different programmes affected by the change, the new structure of the programme including the four key interventions, the different national housing programmes, the accreditation process to implement new housing development, the social housing programme guidelines, the different restructuring zones, who is influenced by the social housing programme and how is it supported financially, and finally the policy framework and programme guidelines for community residential units or hostels.

Cited By: Shivahn Fitzell

University of Illinois Extension Program Planning and Assessment. *Key informant interviews*. 1

Oct 2007, from <http://ppa.aces.uiuc.edu/KeyInform.htm>

This website was relevant because it explained key informant interviews. It covered what they were, when they should be used, and how they could be conducted. This was relevant to the project because it helped in the methodology section and in deciding what types of interviews to use.

Cited by: Maggie Becker

Vanderschuren, M., and S. Galaria Can the post-apartheid South African city move towards accessibility, equity and sustainability? *International Social Science Journal*, 55(176)

This article is slightly relevant for the background section on sustainability. The author's main interest was explaining that South Africa in general and Cape Town specifically, are not in his mind sustainable. The author also pointed out that the South African government is aware of this and is trying to make changes. The author's main focus was on how transportation in urban areas will be a huge contributing factor to sustainability. It was concluded that South Africa is taking

steps towards transportation planning but should also look into the compact city approach. Methodologies that were used included many graphs and tables to show relevant data.

Cited by: Maggie Becker

Watson, Vanessa. (2002). *Change and continuity in spatial planning metropolitan planning in cape town under political transition*. London ; New York: Routledge. from An electronic book accessible through the World Wide Web; click to view

<http://site.ebrary.com/lib/wpi/Doc?id=5006102>

The author is interested in the question of whether or not spatial planning can bring about significant and positive change, specifically in South Africa. Methodology is an in-depth review of the 1996 MSDP Technical Report and a history of spatial planning in Cape Town. Conclusion is that planning is cannot be a technical, fair, or objective exercise, but rather that is will be biased by the leader of it, either the planner or the politician supporting it. So the only way spatial planning can bring about significant and positive change would be if that leader had the interest of all the people at heart. Other interesting info is it talks about how Khayelitsha came to be.

Cited by: Shivahn Fitzell

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